Investigation of the Working Process and Computation of the Speed Characteristics of the D50 Engine

The connections between units consist of air or gas flow as between the engine and the supercharger or turbine, respectively, or alternatively, of mechanical connections as between the turbine and the supercharger. The system of equations governing the relation between the units has two groups, namely, the performance equations of each unit separately and the equations of the connections between them. The first group is stated in Eqs 1 - 7 and the second group in eqs 8 - 16. To these are added relations between certain performance magnitudes which are derived experimentally or analytically. At full throttle, the number of equations corresponds to the number of unknown and, at each rpm, a unique condition of simultaneous operation exists. For a system with constant exhaust gas pressure, the supercharger pressure is plotted as a function of various quantities both in the engine and the turbo-compressor system. The points of intersection of the superimposed graphs corresponding to the same temperature at the same speed define the conditions of simultaneous operation of the two units.

Investigation of the Working Process and Computation of the Speed Characteristics of the D50 Engine

From this, a relation for the supercharge pressure as a function of speed is obtained. Using the experimental or the analytical relation for the mean effective pressure as a function of supercharge pressure and speed, the full throttle power curve is obtained. When the exhaust gas flow is pulsating, further equations are necessary by which the pressure fluctuations, mean temperature and mean gas flow are obtained (Eqs 17 - 20). No new unknowns are introduced. Further equations (21 and 22) replace the appropriate equations describing the connections between the units. The complication of the computing procedure has made it necessary to introduce equivalent pressures by which the pulsating flow is transformed into an equivalent steady flow. These equivalent pressures are tabulated in Table 2. A comparison was made between experimentally obtained and computed equivalent pressures which has shown good agreement. The sequence of steps in computing the power curve is stated in detail and illustrated with numerical examples. The analytical results are shown

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Investigation of the Working Process and Computation of the Speed Characteristics of the D50 Engine

to be in good agreement with measurements. For example, the supercharge air pressure obtained by computation is about 2% below the measured value at 580 rpm. The difference in the mean effective pressure does not exceed 1.5%.

There are 10 figures, 3 tables and 4 Soviet references.

Card 6/6

EPSHTEYN, A. S., CAND TECH SCI, "~~INVESTIGATION~~ Study AND ~~COMPUTATION~~ calculation OF VARIABLE REGIMES OF TRANSPORT ~~ACTION~~ SUPERCHARGED GAS-TURBINE ENGINES." MOSCOW, 1960. (MIN OF HIGHER AND SEC SPEC ED RSFSR, MOSCOW ORDER OF LENIN AND ORDER OF LABOR RED BANNER HIGHER TECHNICAL SCHOOL IM N. E. BAUMAN). (KL, 3-61, 223).

STRUNGE, Boris Nikolayevich; MUL'MAN, Boris Yefimovich; EPSHTEYN, Abram Semenovich; GUREVICH, A.N., kand. tekhn. nauk, retsenzent; SMIRNOVA, V.L., red. izd-va; EL'KIND, V.D., tekhn. red.

[Design of locomotive and marine engines abroad] Konstruktsii zarubezhnykh teplovoznykh i sudovykh dvigatelei. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 299 p. (MIRA 14:11)

(Diesel locomotives) (Marine diesel engines)

S/262/62/000/010/022/024
I007/I207

AUTHOR: Epshteyn, A. S.

TITLE: Method of determining the conditions for joint operation of the [Abstractor's note: diesel] engine and gas-turbine supercharging unit

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk. 42. Silovyye ustanovki, no. 10. 1962, 75, abstract 42.10.458. In collection "Gazoturbin. nadduv dvigateley vnutr. sgoraniya". Moscow, Mashgiz, 1961, 88–100

TEXT: Description of a graphical method is given permitting the largest use of data from test-stand trials. At the same time the method suggested simplifies calculations and shortens their duration. Comparison of calculation data with test results of — Д50 (D50) and 9Д 100 (9D 100) diesel engines, showed good agreement. There are 4 figures.

[Abstracter's note: Complete translation.]

Card 1/1

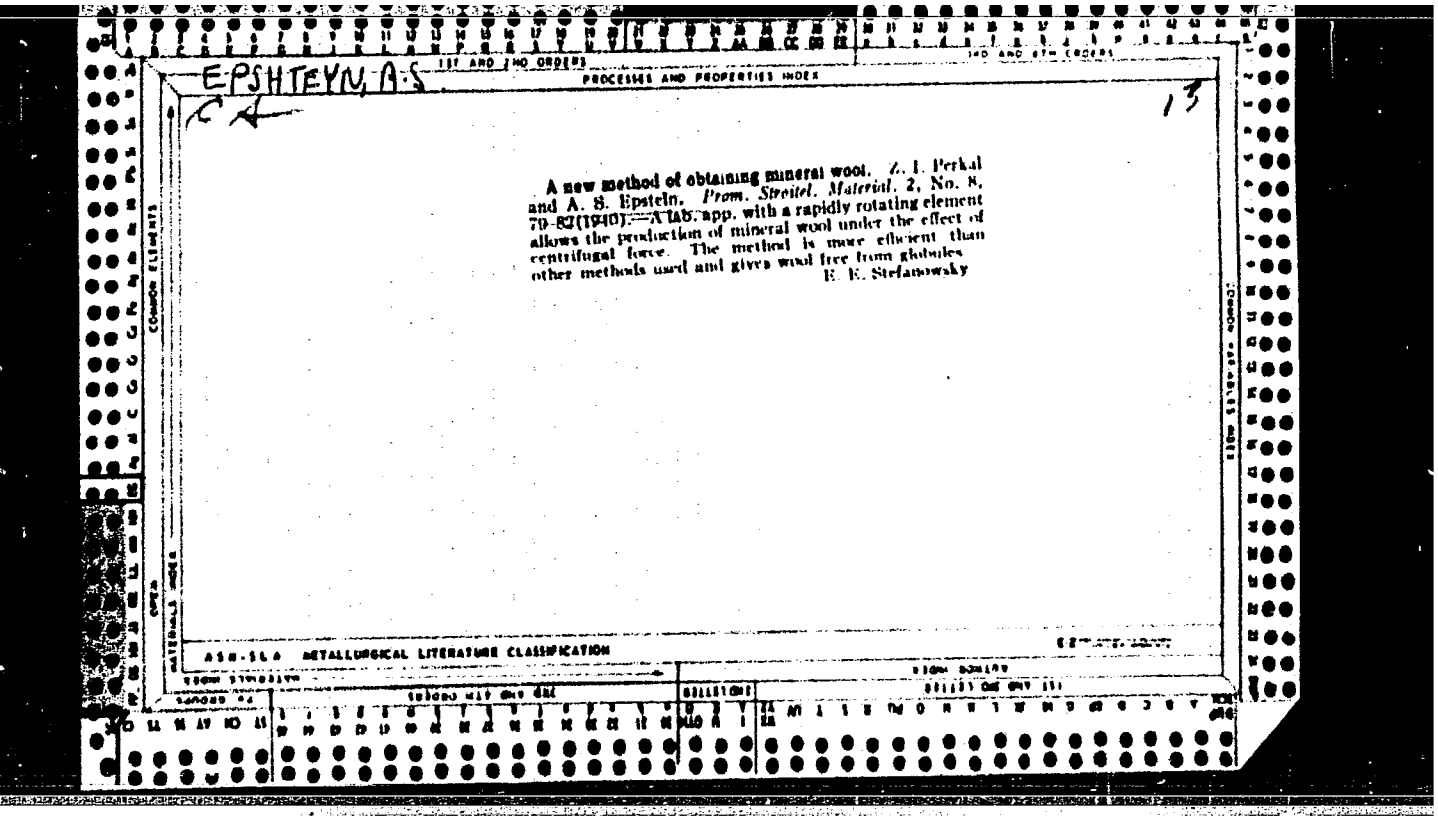
EPSHTEYN, A.S., inzh.

Experimental determination of the consumption coefficients of intake and exhaust valves of the D_{50} diesel engine.
Energomashinostroenie 7 no.6:27-28 Je '61. (MIRA 14:7)
(Diesel engines--Valves)

ADAMESKU, A.A.; SABEL'NIKOVA, N.A.; EPSHTEYN, A.S.

New economic regions of the U.S.S.R. Geog. v shkole 26 no.3: 7-13 My-Je '63. (MIRA 16:6)

(Economic zoning)

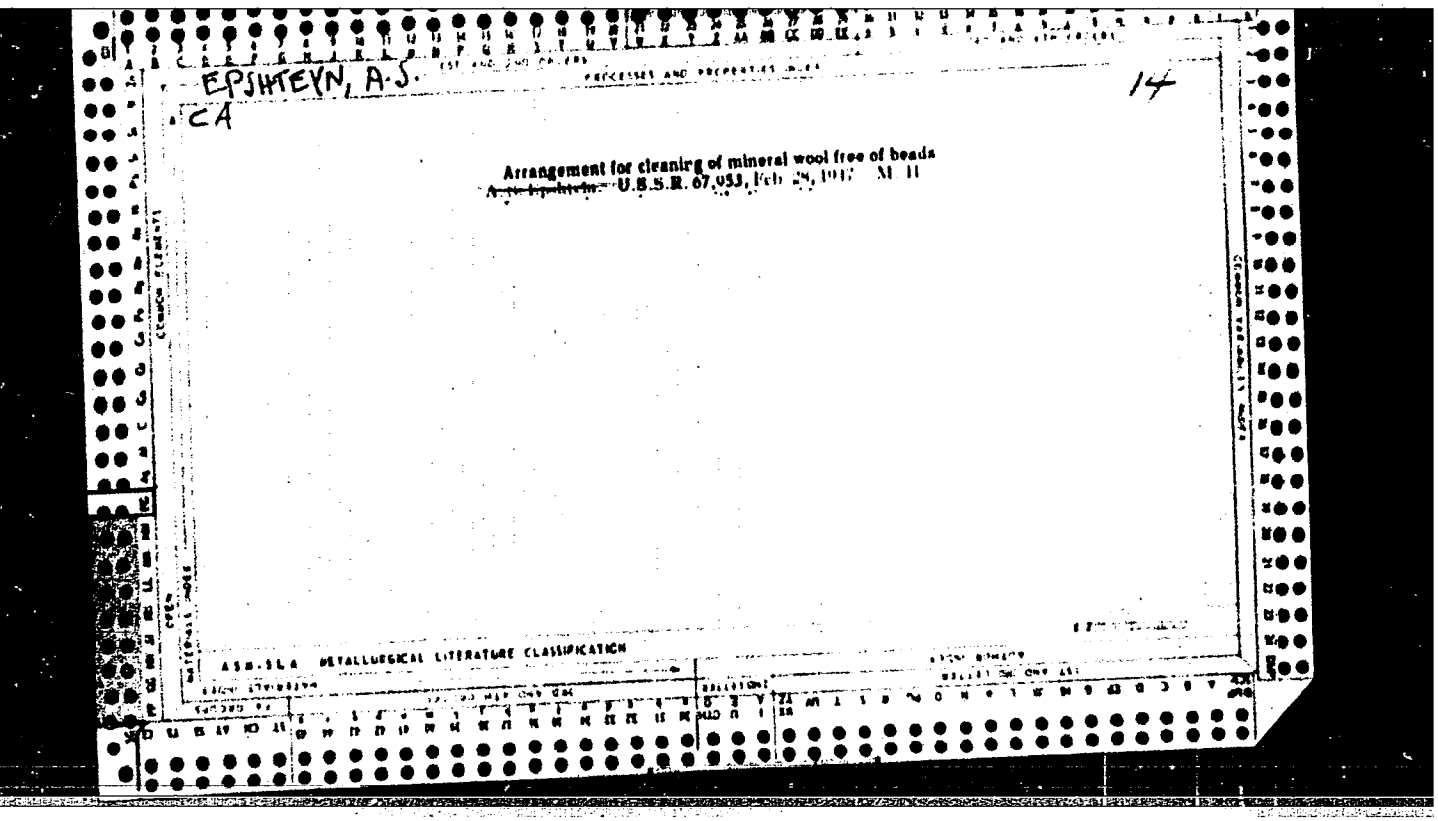


EPSHTEYN, B.S.

13

A new method of obtaining mineral wool. Z. I. Perkal and A. S. Epstein. *Prom. Streitel. Material.* 2, No. 8, 79-82(1940).—A lab. app. with a rapidly rotating element allows the production of mineral wool under the effect of centrifugal force. The method is more efficient than other methods used and gives wool free from globules. E. E. Stefanowsky

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

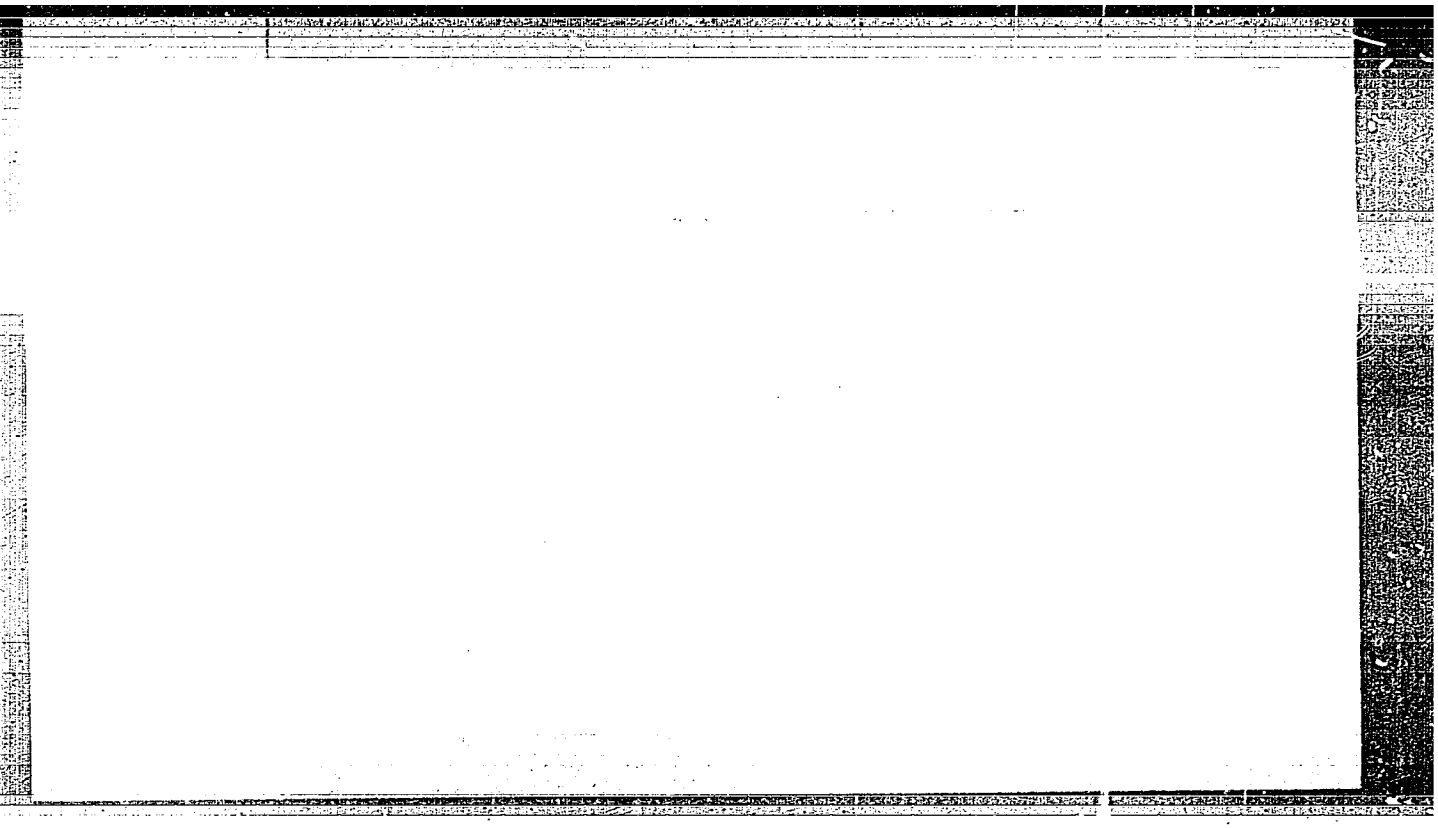

EPSHTEYN, A.S.
CA
14
Arrangement for cleaning of mineral wool free of beads
U.S.S.R. 67,953, Feb 28, 1947
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

EPSHTEYN, A. S.

Building Materials - Testing

Determining the coefficient of heat conductivity of building materials. Stroi. prom. 30 No. 8, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED.



EPSHTEYN, A-S.

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
Fuels and Carbonisation Products

catalysts

Thermal conductivity of the fused coal-tar pitches. V. N. Nechiporenko and A. S. Epshtein. *Zhur. Prikl. Khim.* 26, 547-9(1953).—These data are absent in tech. literature; however, they find an important practical application for calcg. the heat-exchange processes in coal-tar distn. There are 2 methods detg. the thermal cond. of fluids namely (1) method of coaxial cylinders, and (b) method of fine liquid film. The latter one was adopted for this detn. The specially constructed app. with elec. heating by d.c., and the method used are described and illustrated. Thermal cond. detd. by this method for 4 different kinds of pitch (fusing points range from 75° to 181°; free carbon 21.82-48.20%; volatile matter 07.46-31.08%) produced by certain coal-tar distn. plants in the Donetz Basin, represents values between 0.08 and 0.35 kcal./m./°C./hr. increasing in accordance with temp. of pitch which varies from 60° to 280°. It is possible that the values obtained were subject to the influence of change occurring in the pitch sample compn. during heating. The fusing points of the same pitch sample detd. before and after the expt. were different. It was not possible to ascertain a relation between the thermal cond. of fused pitches and their chem. compn. or their fusing points. W. Farafontow

EPSHTEYN, A.S., kandidat tekhnicheskikh nauk; ROKHLIN, I, redaktor; IOAKIMIS, A., tekhnicheskiy redaktor.

[Experience in increasing the productivity of mineral wool factories; a scientific report] Opyt povysheniia proizvoditel'nosti zavodov mineral'noi vaty; nauchnoe soobshchenie. Kiev. Izd-vo Akademii arkhitektury Ukrainskoi SSR, 1954. 26 p. (Mineral wool) (MLRA 8:11)

EPSHTEYN, A. S.

MT

New data on thermal-conductivity coefficients of slag concretes. A. S. Epshtein. *Stroitel. Prom.* 33, No. 9, 33–5(1955).—Literature data do not have any information of the thermal-cond. coeffs. of slag concretes weighing more than 1600 kg./cu.m., while many presently made concretes weigh 1700–2000 kg./cu.m. and experience shows that their thermal cond. is less than expected. Expts. conducted with blocks made with cements having different amts. of clinker showed that replacing portland cement with slag-portland cement mixt. drops the thermal-cond. coeff. from 0.581 to 0.358, and this difference is further intensified when granulated and crushed slags are used in combination with varying cements. The range of thermal-cond. coeffs. recorded for the tested group varied between 0.33 and 0.58 cal./m./hr./degree. I. D. Gat

EPSHTEYN, A.S., insh.

Efficient circuit of gas-turbine supercharging for the 9D100 two-cycle engine of 3000 hp. Energomashinostroenie 4 no.11 31-34 N '58. (MIRA 11:11)

(Diesel engines)

AUTHOR: Epshteyn, A. S. 131-23-5-10/16

TITLE: Device for Grinding Light Foam Bricks (Prisposobleniye dlya shlifovki penolegkovesa)

PERIODICAL: Ogneupory, 1958, Vol. 23, Nr 5, pp. 233-235 (USSR)

ABSTRACT: In the Podol'sk works for refractory products the light bricks are ground on grinding disks. The unfinished pieces of bricks suffer extensive deviations from the dimensions during the burning and also distort. By grinding all of the 6 surfaces they are adapted to the GOST standards. In order to obtain the required dimensions of the bricks metal gauges are used. As these bricks are manufactured in 4 different sizes and as it is worked with 2 grinding disks, 8 gauges are necessary which during grinding are laid on the bricks. Then it is ground until the grinding disk touches the gauge. On each grinding disk per course 800-1000 bricks are ground, which led to a consumption of 2-3 gauges per course. An improvement of the gauges ground down was obtained by welding. In such operation method deviations from the specified brick dimensions occurred. The locksmith and installer V. S. Ryazantsev suggested a device which permits to grind exactly to gauge without a gauge.

Card 1/2

Device for Grinding Light Foam Bricks 131-23-5-10/16

The device is shown in the figure; it is fastened to the table of the grinding machine. It permits to grind bricks of all of the 4 sizes. The device has a movable sleigh which accepts the bricks and permits to grind them without gauge to the wanted size by means of corresponding adjustment of the existing control devices. There is 1 figure.

ASSOCIATION: Podol'skiy zavod ogneupornykh izdeliy (Podol'sk Works of Refractory Products)

AVAILABLE: Library of Congress

1. Refractory materials - Production 2. Grinding wheels - Applications

Card 2/2

EPSHTEYN, A.S., kand.tekhn.nauk

Heat conductivity of lightweight concretes. Stroi.prom. 36 no.4:25-27 Ap '58. (MIRA 11:4)

1. Stalinskoye otdeleniye Zapadno-Sibirskogo filial Akademii stroitel'stva i arkhitektury.
(Lightweight concrete) (Heat--Conduction)

KALNINA, N.A., kand. tekhn.nauk; EPSHTEYN, A.S., kand. tekhn. nauk.

Moisture capacity of lightweight porous concretes made of cinders from heat and electric power plants. Prom. stroi. 36 no.12:23-25 D '58. (MIRA 12:1)

1.Stalinskoye otdeleniye Zapadno-Sibirskogo filiala Akademii stroitel'stva i arkhitektury SSSR.
(Cinder blocks--Testing)

S/196/61/000/011/015/042
E194/E155

AUTHOR: Epshteyn, A.S.

TITLE: An instrument for determining thermal conductivity coefficients for light concretes and other structural materials

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.11, 1961, 51, abstract 11G 331. (Tr. Zap.-Sib. fil. Akad. str-va i arkhitekt. SSSR, no.3, 1960, 42-50)

TEXT: The coefficient of thermal conductivity of materials used for external cladding of heated buildings depends not only on the density (weight per unit volume) but also on the type of raw material, structure and humidity. For practical purposes the limiting sorption value of humidity may be assumed. The assumption that the thermal conductivity coefficient of concrete made from amorphous materials is low needs correction. Structural laboratories usually do not concern themselves with determination of coefficients of thermal conductivity because the methods are complicated. The samples must be carefully

Card 1/2

An instrument for determining ... S/196/61/000/011/015/042
E194/E155

treated under steady-state conditions and a test lasts for more than one shift. It is also laborious to work under non-steady-state conditions. An instrument is recommended for determining the coefficient of thermal conductivity under steady-state conditions; it is based on the principle that the temperature at the surface of the specimen remains constant. The instrument consists of a heater and two coolers (see figure).

[Abstractor's note: Complete translation.]

Card 2/2

EPSHTEYN, A.S., kand.tekhn.nauk

Nature of pore formation in fused blast-furnace slags in making slag pumice. Stroi. mat. 6 no.10:34-35 O '60. (MIRA 13:10)
(Slag)

S/262/62/000/020/007/009
E194/E135

AUTHOR: Epshteyn, A.S.

TITLE: Work of the 'Fairbanks-Morse' firm on gas turbine super-charging of two-stroke opposed-piston engines

PERIODICAL: Referativnyy zhurnal, Silovyye ustanovki, no.20, 1962, 41, abstract 42.20.233. (Tr. Khar'kovsk. politekhn. in-t, Khar'kovsk. z-d transp. mashinostr., v.32, 1961, 205-220)

TEXT: The work of the Fairbanks-Morse Company on gas turbine super-charging of two-stroke opposed-piston diesel engines is reviewed on the basis of foreign (non-Soviet) sources. The company started work on this type of engine in 1933. Until 1940 engine type 38D8 1/8 (S/D = 254/206.2 mm) was made for marine and land installations, and for the last eighteen years these engines have also been made for locomotives. Work on gas turbine super-charging was commenced in 1945 and was conducted in two stages: from 1945-1952, and from 1953-1958. As a result of the work the output per cylinder of the engine was increased from

Card 1/2

Work of the 'Fairbanks-Morse' firm... S/262/62/000/020/007/009
E194/E135

200 to 340 h.p. and the effective fuel consumption reduced from 168 to 153 grams per h.p. hour. The life and reliability of the engine were checked by prolonged tests of a total duration of 20 000 hours. A detailed presentation is made of the scope and results of the work in these first and second stages; various systems of turbo super-charging which were tested during the second stage of the investigation are considered and analysed, and the results are given of tests and adjustments for the turbo super-charging system that was finally accepted. In conclusion, a brief description is given of the arrangement of a 12-cylinder diesel engine with turbo supercharging and the development prospects of this type of engine.

[Abstractor's note: Complete translation.]

Card 2/2

ARTIZANOV, Ye.A., inzh.; DORFMAN, Yu.I., inzh.; ZASLAVSKIY, Ye.G., inzh.; KUSHNER, B.I., inzh.; PLUTSNER-SARNO, Yu.N., inzh.; SMOL'YANINOV, A.Ye., inzh.; SPIVAK, Ya.L., inzh.; STRUNGE, B.N., inzh., EPSHTEYN, A.S., inzh.; SAZONOV, A.G., inzh., red.; USENKO, L.A., tekhn. red.

[The TE10 diesel freight locomotive] Gruzovoi teplovoz TE10. Moskva, Transzheldorizdat, 1962. 171 p. (MIRA 15:10)
(Diesel locomotives)

EPSHTEYN, A.S., kand. tekhn. nauk; NIGMATULIN, I.N., doktor tekhn. nauk, retsenzent; YEGORKINA, L.I., inzh., red.; DEMKINA, N.F., tekhn. red.

[Variable operating conditions of turbocharged diesel engines]Peremennye rezhimy dvigatelei s gazoturbinnym nadduvom. Moskva, Mashgiz, 1962. 206 p. (MIRA 15:11)
(Diesel engines) (Superchargers)

ASEYEV, Ye.N.; EPSHTEYN, A.S.; CHERNOMORDIK, B.M., kand. tekhn. nauk, retsenzent; MELEYEV, A.S., inzh., red.; BULATOV, S.I., red.izd-va; UVAROVA, A.F., tekhn. red.

[Design and calculations for free-piston gas generators]Konstruirovanie i raschet bezval'nykh generatorov gaza. Moskva, Mashgiz, 1962. 354 p. (MIRA 15:12)
(Gas producers) (Turbomachines)

EPSHTEYN, A.S., kand.tekhn.nauk

Solution of a problem in foreign countries concerning the variable operation of two-cycle engines used in transportation systems with gas turbine injection. Teplovoz.i sud.dvig. no.3:278-286 '62.
(MIRA 16:2)

(Diesel engines)

ACC NR: AP6028717 (A,N) SOURCE CODE: UR/0122/66/000/008/0013/0016

AUTHOR: Epshteyn, A. S. (Candidate of technical sciences)

ORG: none

TITLE: Calculation of transient processes in a supercharged diesel generator

SOURCE: Vestnik mashinostroyeniya, no. 8, 1966, 13-16

TOPIC TAGS: diesel engine, electric generator, diesel generator, engine performance characteristic/ D100 diesel generator

ABSTRACT: A methodology for calculating the transient behavior of a supercharged diesel generator is presented and its use is demonstrated, using the D100 diesel generator as an example. The method is based on calculating a sequence of semistatic situations with the time interval being smaller than the period between successive cylinder firings (at least, during the periods of steep gradients). To perform these calculations it is necessary to know the performance characteristics of the components, i.e., the indicator diagrams of the D100 as a function of initial pressure, the compressor torque requirements of the supercharger as a function of initial pressure (and shaft angle) are presented and used in the calculations. The set of equations which is developed is used to predict the $\omega = f(\tau)$ behavior of the D100 when a 100% step-change in load is applied. The calculated results agree very well with the experimental ones. Orig. art. has: 4 figures and 15 formulas.

SUB CODE: 13/ SUBM DATE: none

Card 1/1 UDC: 621-843.6.001.24

ACC NR: AM6032613 (4,N) Monograph UR/

Strunge, Boris Nikolayevich; Revva, Leonid Dorofeyevich; Raskin, Veniamin Geselevich; Epshteyn, Abram Semenovich

D100 automated high-power diesel generators (Avtomatizirovannyye dizel'-generatory bol'shoy moshchnosti tipa D100) Moscow. Izd-vo "Mashinostroyeniye", 1966. 259 p. illus., biblio. 1800 copies printed.

TOPIC TAGS: diesel engine, marine engineering, generator, electric generator, electric generator unit, automation, automation equipment/D100 diesel generator

PURPOSE AND COVERAGE: This book is intended for technical and engineering workers engaged in the planning and operation of stationary and shipboard automated diesel generators. The book discusses the principles and methods of automating the control, servicing, emergency-warning signalling, and the protection of high powered, type D100 stationary and shipboard diesel generators. Technical characteristics are presented, and domestic systems of automation, remote control, emergency-warning signalling, and the protection of diesel generators are described. The peculiarities of automation systems, their electrical diagrams, and the design of separate elements of the devices for monitoring these systems are examined. Recommendations are given for the installation, check-out, and operation of automated diesel generators. There are 14 references, all Soviet.

TABLE OF CONTENTS (Abridged)

ACC NR: AM6032613

SUB CODE: 13/ SUBM DATE: 31Mar66/ ORIG REF: 014/

L 14452-66 EWP(f)/EPF(n)-2/T-2/ETC(m)-6 WW
ACC NR: AP6002952 (A) SOURCE CODE: UR/0286/65/000/024/0124/0124

INVENTOR: Strunge, B. N.; Belostotskiy, A. M.; Pesotskiy, V. Yu.; Lubchenko, M. I.; Turchak, Ye. V.; Epshteyn, A. V.

ORG: none

TITLE: A device for improving the pickup of a diesel generator with gas turbine supercharging. Class 46, No. 177227 [announced by the Kharkov Plant of Transportational Machine Building im. V. A. Malyshev (Khar'kovskiy zavod transportnogo mashinostroyeniya)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 124

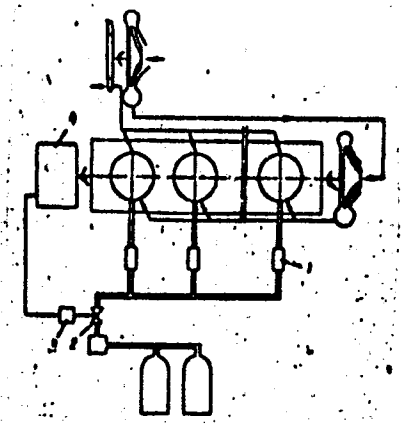
TOPIC TAGS: generator, diesel engine, gas turbine

ABSTRACT: This Author's Certificate introduces a device for improving the pickup of a diesel generator with gas turbine supercharging. The device contains a mechanism for supplying additional air to the diesel cylinders from stand-by tanks. Operational reliability is improved by automatic valves mounted on each cylinder. The supply mechanism is made in the form of a valve with a controller which is operated by pulses from the generator.

Card 1/2 UDC: 621.436.052-443.2

L 14452-66

ACC NR: AP6002952



1 - automatic valve; 2 - gate valve; 3 - controller; 4 - generator.

SUB CODE: 21/ SUBM DATE: 01Aug64

OVR

Card 2/2

NEFEDOV, N.A., inzh.; OSIPOV, K.A., inzh.; ARSHINOV, V.A., kand. tekhn nauk, dots., retsenzent; EPSHTEYN, A.Yu., inzh., retsenzent; KUNIN, P.A., inzh., red.; SOKOLOVA, T.F., tekhn. red.

[Problems and examples of metal cutting and metal-cutting tools] Sbornik zadach i primerov po rezaniiu metallov i rezhushchemu instrumentu. Moskva, Mashgiz, 1962. 224 p. (MIRA 15:11)
(Metal cutting) (Metal-cutting tools)

TYULENEV, S.D., inzh.; EPSHTEYN, A.Z., inzh.

The work of anchor fastenings of hot-blast stoves of blast furnaces. Prom. stroi. 40 [i.e. 41] no.6:31-33 Je '63.
(MIRA 16:10)

1. Dnepropetrovskiy filial Gosudarstvennogo proyektnogo instituta po proyektirovaniyu, issledovaniyu i ispytaniyu stal'nykh konstruktsiy i mostov.

ASLANOV, V., inzh.; EPSHTEYN, B., kand.tekhn.nauk

Useful manual for engineers and technicians. Mias.ind.SSSR 31 no.3:58 '60. (MIRA 13:9)

(Meat industry)

EPSHTEYN, B.A.

KNAPP, K.K., inzhener; EPSHTEYN, B.A., inzhener.

Anticorrosion protective device against gas combustion products in gas water heaters. Gor. khoz. Mosk. 30 no.7:11-13 Jl '56. (MLRA 9:10)

1. Moskovskaya okruzhnaya inspektsiya Gostekhgornadzora.
(Corrosion and anticorrosives) (Water heaters)

MARGORINA, L.M.; BILIBIN, A.F. KRYLOVA, L.V.; EPSHTEYN, B.A.

Biological method for the identification of atypical bacteria of the dysentery group. Zhur. mikrobiol., epid. i immun. 42 no.11:16-19 N '65. (MIRA 18:12)

1. Submitted December 9, 1964.

EPSHTEYN, B.P., kand. tekhn. nauk; GORBATOV, V.M., red.

[All-Union Scientific Research Institute of the Meat Industry] Vsesoiuznyi nauchno-issledovatel'skii institut miasnoi promyshlennosti. Moskva, Glavniiproekt pri Gosplane SSSR, 1959. 83 p. (MIRA 16:4)
(Meat industry--Research)

EPSHTEYN, Boris Pavlovich, kand.tekhn.nauk, dotsent; GORBATOV, V.M., dotsent, red.; MEDVEDEV, L.Ya., tekhn.red.

[All-Union Scientific Research Institute of the Meat Industry] Vsesoiuznyi nauchno-issledovatel'skii institut miasnoi promyshlennosti. Pod obshchei red. V.M. Gorbatova. Izd.2., perer. i dop. Moskva, Glavnii pri Gosekonomsovete SSSR, 1962. 160 p. (MIRA 16:6)

(Meat industry) (Research, Industrial)

EPSHTEYN, B.R.

Assortment and quality of staple fabrics. Tekst.prom. 14 no.7: 12-13 Jl '54. (MLRA 7:8)

1. Starshiy tovaroved TSentrosoyuza SSSR.
(Synthetic fabrics)

EPSTEIN, B. S.

Pogrebov, A. G., and Epstein, B. S. "Reconnaissance Magnetic Surveys of some Regions in the South-Eastern Part of the Western District." Magnitnye Anomalii Smolenskoi i Orlovskoi Oblastei, Smolensk, 1938, pp. 123-131.

EPSHTEYN, B. Sh. (Engr.) and RABKIN, L. (Cand. Tech. Sci)

"Nonmetallic Magnetic Materials (Soviet Ferrites)," Radio, No. 12, pp 14-17, 1952.

SO: W-27528, 26 Aug 1953.

USSR :

Phase composition and some ferromagnetic properties of manganese-zinc ferrites. N. A. Tarasov, L. I. Rabkin, F. Zh. Freidenfel'd, and B. Sh. Bokshtein. J. Appl. Chem. U.S.S.R. 26, 905-11(1953)(Engl. translation). See C.A. H. L. H.

EPSHTEYN, B. SH.

5

(4)

8656* Phase Composition and Certain Ferromagnetic Properties of Manganese-Zinc Ferrites. (Russian.) N. A. Toropov, I. I. Rabkin, E. Zh. Freidenfel'd, and B. Sh. Epshtein. *Zhurnal Prikladnoi Khimii*, v. 26, no. 9, Sept. 1953, p. 982-990. Describes chemical, microscopic, X-ray, and magnetic studies of synthesized ferrites. Tables, diagrams, graphs. 9 ref.

11/19/54

EPSHTEYN, B. SH.

USSR/Chemical Technology - Chemical Products and Their Application. Silicates. Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62301

Author: Rabkin, L. I., Epshteyn, B. Sh.

Institution: None

Title: Some Properties of Nickel-Zinc Ferrites

Original Periodical: Zh. tekhn. fiziki, 1954, 24, No 9, 1568-1578

Abstract: None

Card 1/1

USSR/Electronics - Pupin coils

Card 1/1 Pub. 133 - 14/16

Authors : Rabkin, L. I., and Epshteyn, B. Sh.

Title : Small size pupin coils

Periodical : Vest. svyazi 5, page 29, May 1955

Abstract : Principle operational and construction characteristics of small size pupin coils, designed by the Leningrad Province [illegible] Research [illegible] Institute [illegible] telephone lines, are [illegible]

[illegible] : .....

Submitted : .....

8(5) SOV/105-58-11-14/28

AUTHORS: Rabkin, L. I., Candidate of Technical Sciences, Epshteyn, B. Sh., Engineer, Koblents, Ya. G., Engineer

TITLE: Ferrites With a Rectangular Hysteresis Loop (Ferrity s pryamougol'noy petley gisterezisa)

PERIODICAL: Elektrichestvo, 1958, Nr 11, pp 59-68 (USSR)

ABSTRACT: This is a survey of the method of production, of the principal parameters and characteristics of some domestic ferrites

hysteresis loop are given. Two circuit diagrams for pulse operation developed in the USSR for use with ferrites with a rectangular hysteresis loop are mentioned: 1) a matrix memory circuit (Ref 14), which was developed by the Laboratoriya elektromodelirovaniya AN SSSR (Laboratory of Electric Modeling, AS USSR) in 1955 and which was applied in the computer of the BESM ITM VT, AS USSR. 2) Among step-by-step circuits the choke coil circuit developed by N. V. Korol'kov and V. S. Gavrilov, collaborators of the same laboratory, is the most recent advance (Ref 30). There are 16 figures, 1 table, and 32 references, 12 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut gorodskoy i sel'skoy telefonnoy svyazi (Scientific Research Institute of Municipal and Rural Telephone Communications)

SUBMITTED: May 26, 1958

AUTHORS: Rabkin, L. I., Soskin, S. A. SOV/48-22-10-11/23
Epshteyn, B. Sh.

TITLE: Synthesis and Magnetic Properties of Ferrites Exhibiting a Rectangular Hysteresis Loop (Sintez i magnitnyye svoystva ferritov s pryamougol'noy petley gisterezisa)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1958, Vol.22, Nr 10, pp 1217 - 1224 (USSR)

ABSTRACT: The magnetic properties of ferrites are influenced not only by their chemical composition but also by the presence of pores and by the shape, size, and position of the impurities contained. These factors depend on the conditions of production, on the initial mixture, and on the synthesis. In the present paper the authors investigated the production of the samples, the method of measuring, the influence of the dispersing medium and of the synthetization medium, the influence of the duration of cooling, and the influence of the chemical composition upon the magnetic properties of ferrites showing a rectangular hysteresis loop. On the base of these investigations several types of ferrites were developed. The basic parameters of these ferrites are given

Card 1/3

in table 3. In the selection of the prescriptions some compositions worked out under the supervision of Kosarev (Ref 9) were considered. The magnetic properties of ferrites were examined under dynamical conditions by means of measuring the amplitude, frequency, and temperature characteristics. As the amplitude characteristics of the ferrites ПП-2 (Fig 6) show, the relative remanent magnetization exhibits a maximum at a certain amplitude of the field strength. The coercive force increases considerably faster with increasing amplitude of the field strength than the maximum magnetization. Considering these properties it is useful to employ ferrites with a rectangular hysteresis loop in the case of comparatively low field strengths if the remanent magnetization has its maximum. For the frequency dependence of B_m, B_r/B_m, and H_c (Fig 7) of the ferrites PP-24 a weak dependence of the maximum and of the remanent magnetization in the frequency range of from 10 to 100 kilocycles is characteristic. The temperature characteristics of the ferrite PP-24 in the temperature range of -70 to +120° are represented in figure 8. The curves show that B_m, B_r/B_m,

and H_0 decrease with increasing temperature. The curves of the dependence of τ and $1/\tau$ (τ denotes the duration of remagnetization) on the field strength for PP-1, PP-5, and PP-24 are represented in figure 9. It can be seen that the quantity $1/\tau$ increases linearly with increasing strength of the magnetic field. The ferrites PP-1 and PP-5 which distinguish themselves from PP-24 by a higher coercive force, exhibit a longer duration of remagnetization. There are 9 figures, 3 tables, and 9 references, 3 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut telefonnoy svyazi (Scientific Research Institute of Telephone Communications)

RUBANENKO, Mikhail Rafailovich; EPSHTEYN, B.S., red.; KUBNEVA, M.M., tekhn.red.

[Materials for use in vacuum devices intended for use in a tropical climate] Materialy, primeniaemye dlia elektrovakuumnykh priborov, prednaznachennykh dlia raboty v usloviiakh tropicheskogo klimatap Leningrad, Leningr.dom nauchno-tekhn.propagandy, 1959. 17 p. (MIRA 13:2)
(Electron tubes)

SHERESHEVSKIY, Aron Markovich; EPSHTEYN, B.S., inzh., red.; KUBNEVA, M.M., tekhn.red.

[Soviet mass spectrometers] Otechestvennye mass-spektrometry; stenogramma lektsii. Leningrad, Leningr.dom nauchno-tekhn. propagandy, 1959. 29 p. (MIRA 13:2)
(Spectrometer)

HEKRICH, Khaim Abramovich; EPSHTEYN, B.S., inzh., red.; SHILLING, V.A., izd.red.; GVIRTS, V.L., tekhn.red.

[New AFD-type shock absorber] Novyi pribornyi amortizator tipa AFD. Leningrad, 1960. 14 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom, no.55. Seriia: Pribory i elementy avtomatiki, vyp.10)

(MIRA 14:1)

(Shock absorbers)

EPSHTEYN, B. Sh.

PHASE I BOOK EXPLOITATION SOV/4893

Vsesoyuznoye soveshchaniye po fizike, fiziko-khimicheskim svoystvam ferritov i fizicheskim osnovam ich primeneniya. 3d, Minsk, 1959

Ferrity; fizicheskiye i fiziko-khimicheskiye svoystva. Doklady (Ferrites; Physical and Physicochemical Properties. Reports) Minsk, Izd-vo AN SSSR, 1960. 655 p. Errata slip inserted. 4,000 copies printed.

Sponsoring Agencies: Nauchnyy sovet po magnetizmu AN SSSR. Otdel fiziki tverdogo tela i poluprovodnikov AN SSSR.

Editorial Board: Resp. Ed.: K. N. Sirota, Academician of the Academy of Sciences BSSR; K. P. Belov, Professor; Ye. I. Kondorskiy, Professor; K. M. Polivanov, Professor; A. V. Talesnin, Professor; G. A. Smolenskiy, Professor; N. N. Sholkin, Candidate of Physical and Mathematical Sciences; K. M. Zaslavskaya; and L. A. Bashkirov; Ed. of Publishing House: S. Zholyanskiy; Tech. Ed.: I. Volchkanovich.

PURPOSE: This book is intended for physicists, physical chemists, radio electronics engineers, and technical personnel engaged in the production and use of ferromagnetic materials. It may also be used by students in advanced courses in radio electronics, physics, and physical chemistry.

COVERAGE: The book contains reports presented at the Third All-Union Conference on Ferrites held in Minsk, Belorussian SSR. The reports deal with magnetic transformations, electrical and galvanomagnetic properties of ferrites, studies of the growth of ferrite single crystals, problems in the chemical and physicochemical analysis of ferrites, studies of ferrites having rectangular hysteresis loops and multicomponent ferrite systems exhibiting spontaneous rectangularity, problems in magnetic attraction, highly coercive ferrites, magnetic spectroscopy, ferromagnetic resonance, magneto-optics, physical principles of using ferrite components in electrical circuits, anisotropy of electrical and magnetic properties, etc. The Committee on Magnetism, AS USSR (S. V. Vonsovskiy, Chairman) organized the conference. References accompany individual articles.

RUSETSKIY, Boris Leont'yevich; SHAL'NOV, Aleksey Ivanovich; EPSHTEYN, B.S., inzh., red.; SHILLING, V.A., red.izd-va; GVIRTS, V.L., tekhn. red.

[Mechanized continuous line for manufacturing C-type band cores] Mekhanizirovannaia potochnaia liniia izgotovleniia lentochnykh S-obraznykh serdechnikov. Leningrad, 1961. 14 p. (Leningradskii Dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Pribory i elementy avtomatiki, no.2) (MIRA 14:7)
(Cores (Electricity))

GOBERMAN, Tat'yana Nikolayevna; EPSHTEYN, B.S., inzh., red.; FREGER, D.P., red. izd-va; GVIRTS, V.L., tekhn. red.

[Using automatic photoelectric devices at the Izhora Plant] Primenenie fotoelektricheskoi avtomatiki na Izhorskom zavode. Leningrad, 1960. 14 p. (Leningradskii Dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Pribory i elementy avtomatiki, no.14)
(MIRA 14:8)

(Kolpino—Machinery industry)
(Photoelectric measurements)

ALESKOVSKAYA, Tamara Yefimovna; KOROVKINA, Ida Antoninovna; EPSHTEYN, B.S., inzh., red.; FREGER, D.P., red. izd-va; GVIRTS, V.L., tekhn. red.

[Thermosensitive color for determining the temperature field of surfaces of solids in the temperature range from 300° to 1, 000 C] Termokraska dlia opredeleniia temperaturnogo polia poverkhnosti tverdykh tel v intervale temperatur 300-1000° C. Leningrad, 1961. 14 p. (Leningradskii Dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Pribory i elementy avtomatiki, no.5) (MIRA 14:7)

(Temperature—Measurement)

GENKIN, Boris Abramovich; EPSHTEYN, B.S., inzh., red.; FREGER, D.P., izd-va; BELOGUROVA, I.A., tekhn. red.

[The APM-2 automatic program control unit] Avtomaticheskii programmnyi mekhanizm APM-2. Leningrad, 1961. 21 p. (Leningradskii Dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Pribory i elementy avtomatiki, no.4) (MIRA 14:7)
(Electronic control)

USIKOV, Sergey Vasilyevich; EPSHTEYN, B.S., inzh., red.; FREGER, D.P., red. izd-va; BELOGUROVA, I.A., tekhn. red.

[Contactless high-frequency methods for measuring the conductivity and dielectric permeability of solutions] Vysokochastotnye metody izmereniia provodimosti i dielektricheskoi pronitsaemosti rastvorov beskontaktnym sposobom. Leningrad, 1961. 23 p. (Leningradskii Dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Pribory i elementy avtomatiki, no.8) (MIRA 14:7)
(Solution (Chemistry)—Electric properties)
(Chemical engineering—Electronic equipment)

EPSHTEYN, B., inzh.

Subsurface depots. Na stroi. Ros. no.5:12-13 My '61.
(MIRA 14:7)

(Grain) (Grain elevators)

RABKIN, Lev Izrailevich; SOSKIN, Semen Aronovich; EPSHTEYN, Boris Shayevich; KAZARNOVSKIY, D.M., red.; SOBOLEVA, Ye.M., tekhn. red.

[Technology of ferrites]Tekhnologiia ferritov. Moskva, Gosenergoizdat, 1962. 358 p. (MIRA 15:9)
(Ferrates)

EPSHTEYN, B. V. Cand. Tech. Sci.

Dissertation: "Analysis of Typical Storing Elevators in the USSR." Moscow Technological Inst of the Food Industry, 15 Oct 47.

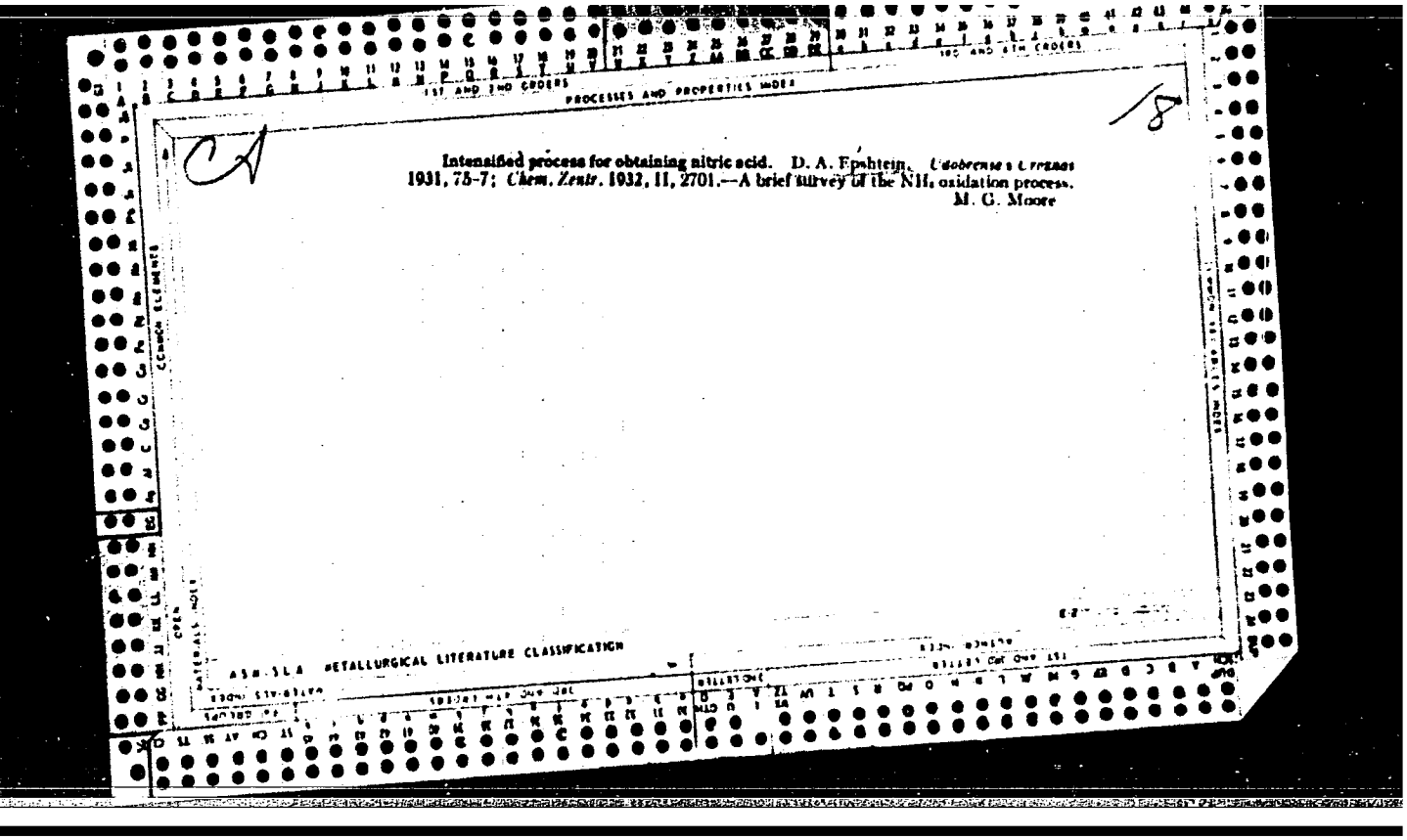
SO: Vechernyaya Moskva, Oct, 1947 (Project #17836)

KUZNETSOV, S.M., kand.tekhn.nauk; EPSHTEYN, B.V., kand.tekhn.nauk;
KULAKOVSKIY, A.B., inzh.; KUROCHKIN, A.M., inzh.

Precast reinforced concrete granaries. Bet.i zhel.-bet.
no.8:337-345 Ag '61. (MIRA 14:8)
(Granaries) (Precast concrete construction)

POLYAKOV, Kirill Petrovich; Prinimal uchastiye EPSHTEYN, B.Yu.; KHARINSKIY, A.L., retsenzent; ZHUKOV, V.A., red.; SOBOLEVA, Ye.M., tekhn. red.

[Equipment frameworks of radio-electronic apparatus] Pribornye korpusa radioelektronnoi apparatury. Moskva, Gosenergoizdat, 1963. 187 p. (MIRA 16:4)
(Radio—Equipment and supplies)
(Electronic apparatus and appliances)

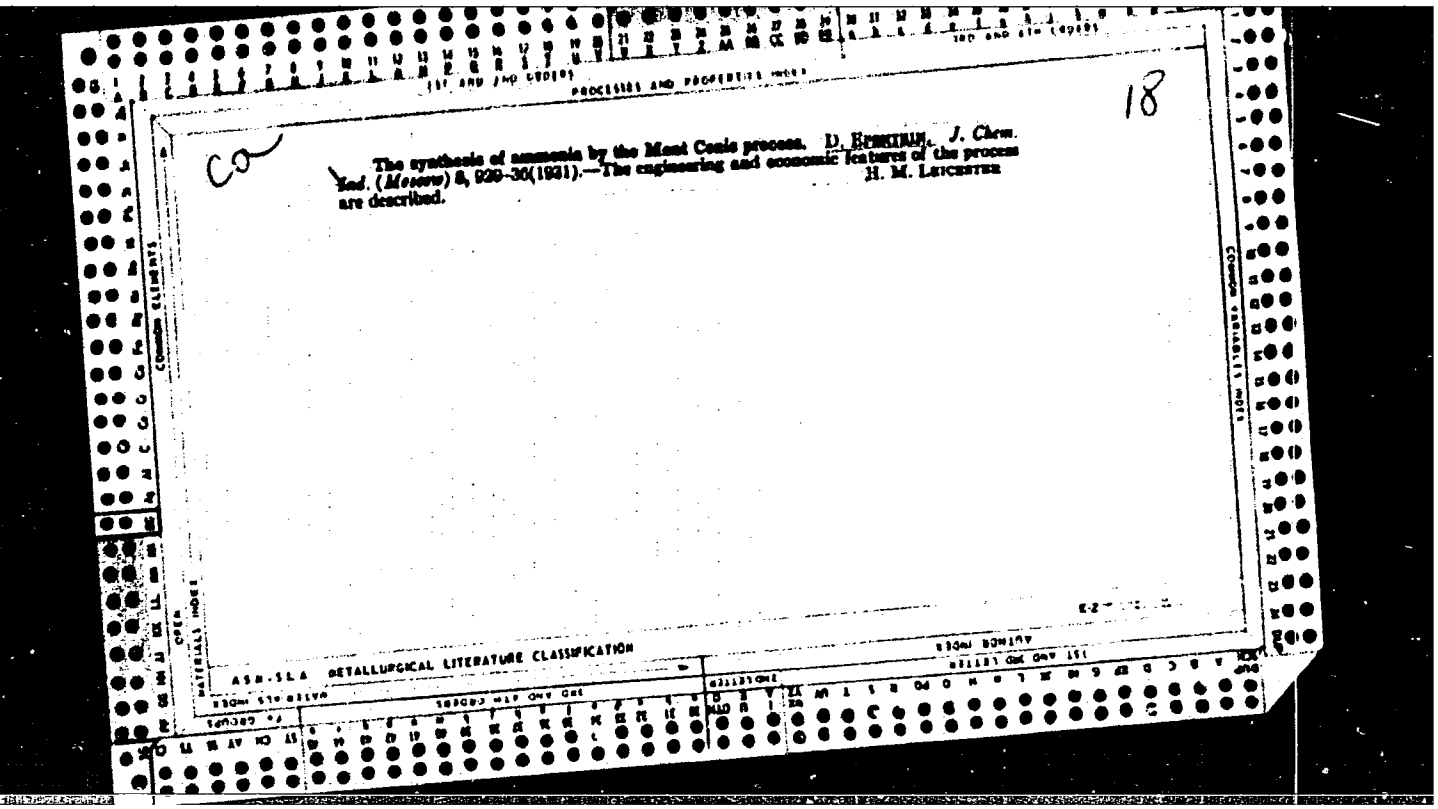


CA

18

Intensified process for obtaining nitric acid. D. A. Epshtein. *Uspekhi Khimii* 1931, 75-7; *Chem. Zentr.* 1932, II, 2701.—A brief survey of the NH_3 oxidation process.
M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

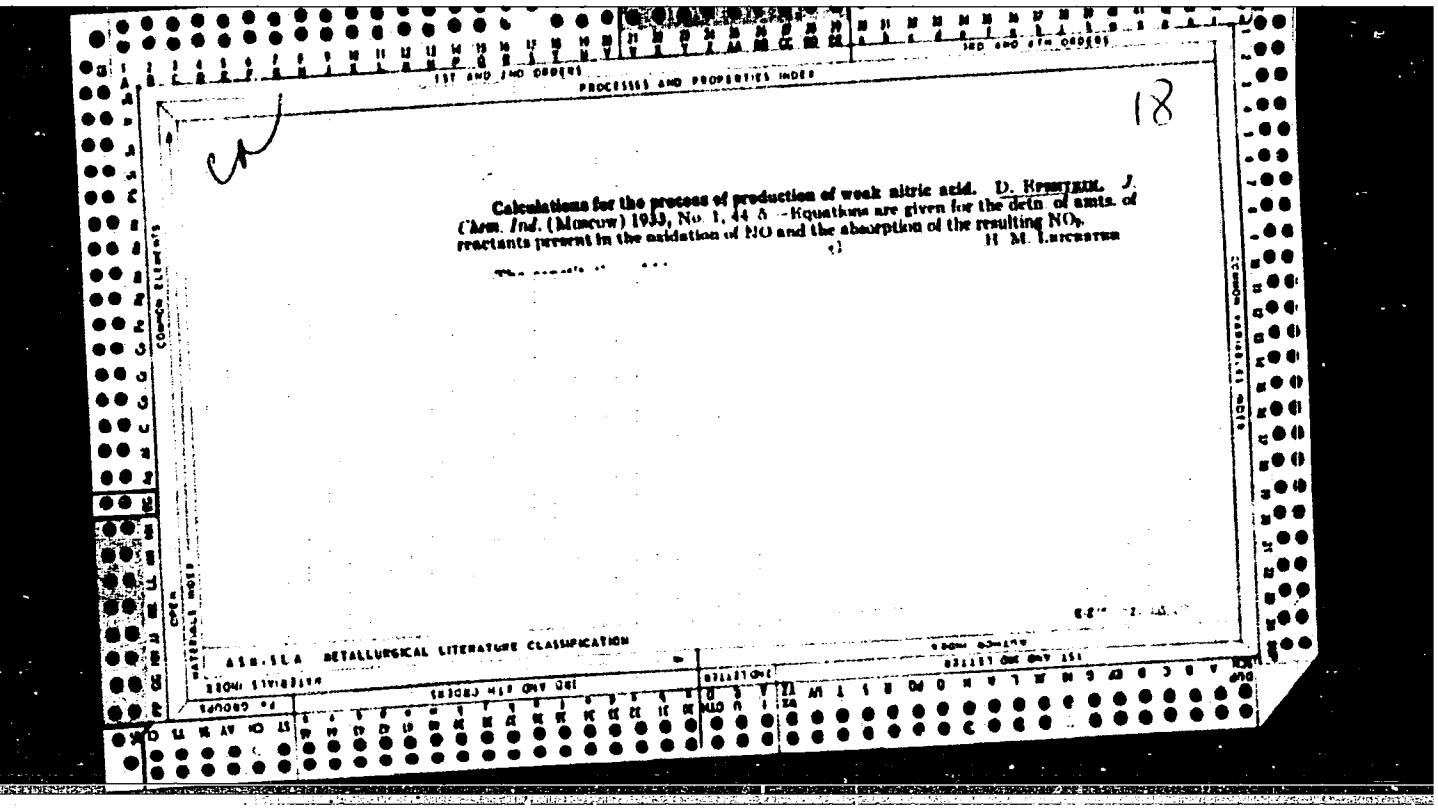


18

The synthesis of ammonia by the Mont Cenis process. D. Ephraim. *J. Chem. Ind.* (*Moscow*) **8**, 929–30(1931).—The engineering and economic features of the process are described.

H. M. Leicester

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



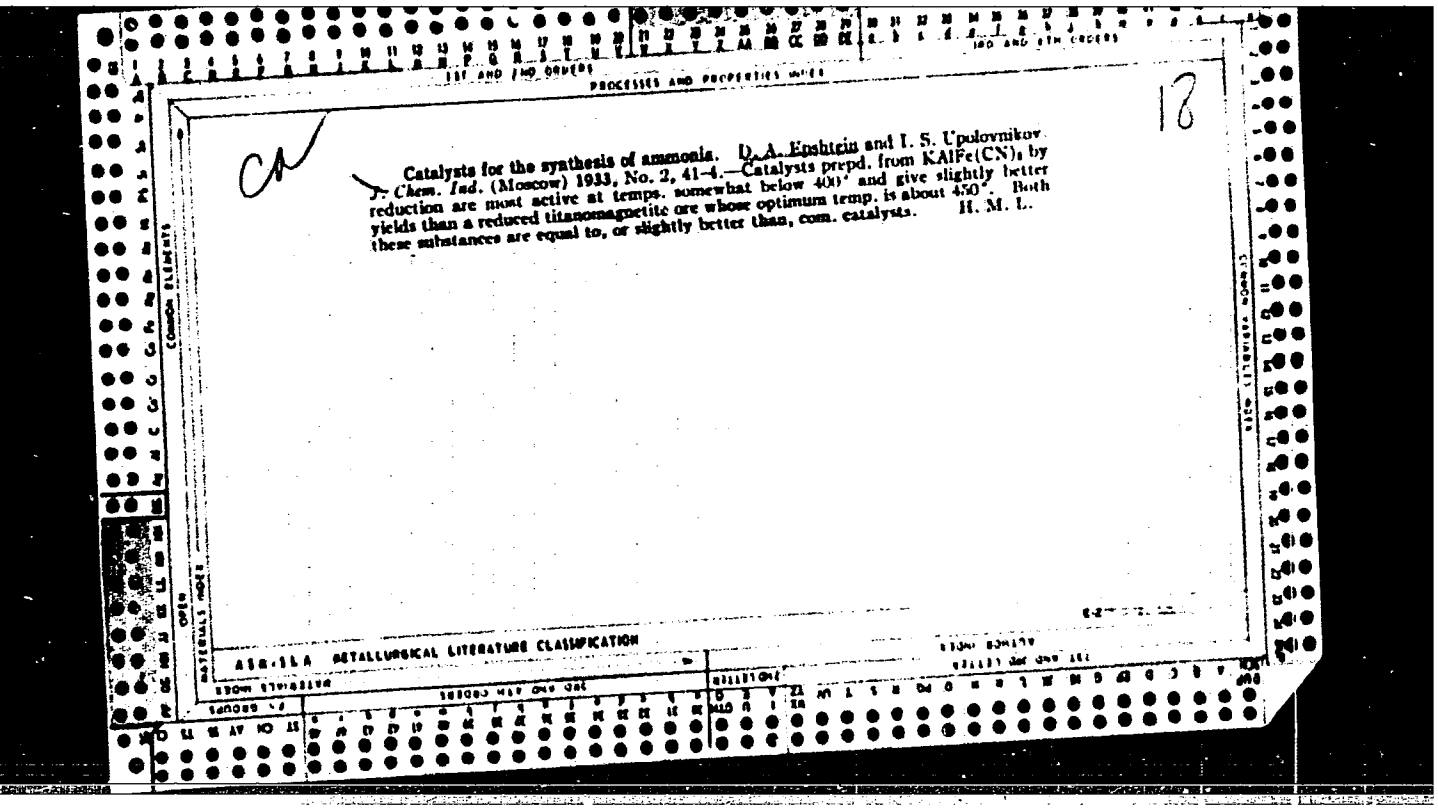
PROCESSES AND PROPERTIES INDEX

18

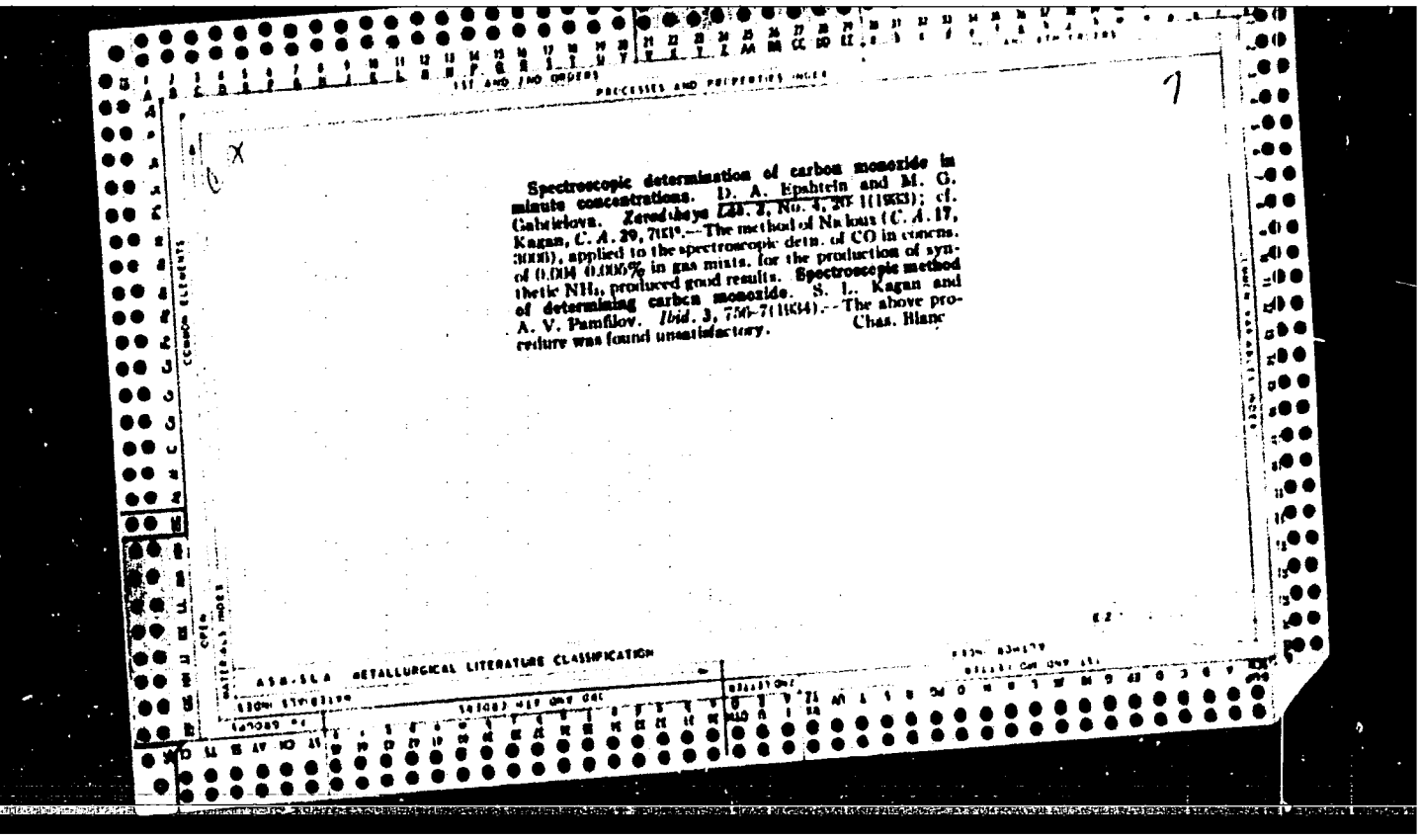
Calculations for the process of production of weak nitric acid. D. Kramzik. *J. Chem. Ind.* (Moscow) 1939, No. 1, 44 8. —Equations are given for the detn. of amts. of reactants present in the oxidation of NO and the absorption of the resulting NO_2.

H. M. Lancaster

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Catalysts for the synthesis of ammonia. D. A. Epshtein and I. S. Upolovnikov. *J. Chem. Ind.* (Moscow) 1933, No. 2, 41–4.—Catalysts prepd. from $KAlFe(CN)_6$ by reduction are most active at temps. somewhat below 400° and give slightly better yields than a reduced titanomagnetite ore whose optimum temp. is about 450°. Both these substances are equal to, or slightly better than, com. catalysts. H. M. L.



Spectroscopic determination of carbon monoxide in minute concentrations. D. A. Epshtein and M. G. Gabirilova. *Zavodskaya Lab.* 2, No. 4, 301-11(1933); cf. Kagan, *C. A.* 29, 7151.—The method of Nahous (*C. A.* 17, 3088), applied to the spectroscopic detn. of CO in concns. of 0.004-0.100% in gas mixts. for the production of synthetic NH_3, produced good results. **Spectroscopic method of determining carbon monoxide.** S. L. Kagan and A. V. Pamfilov. *Ibid.* 3, 750-7(1934).—The above procedure was found unsatisfactory. Chas. Blanc

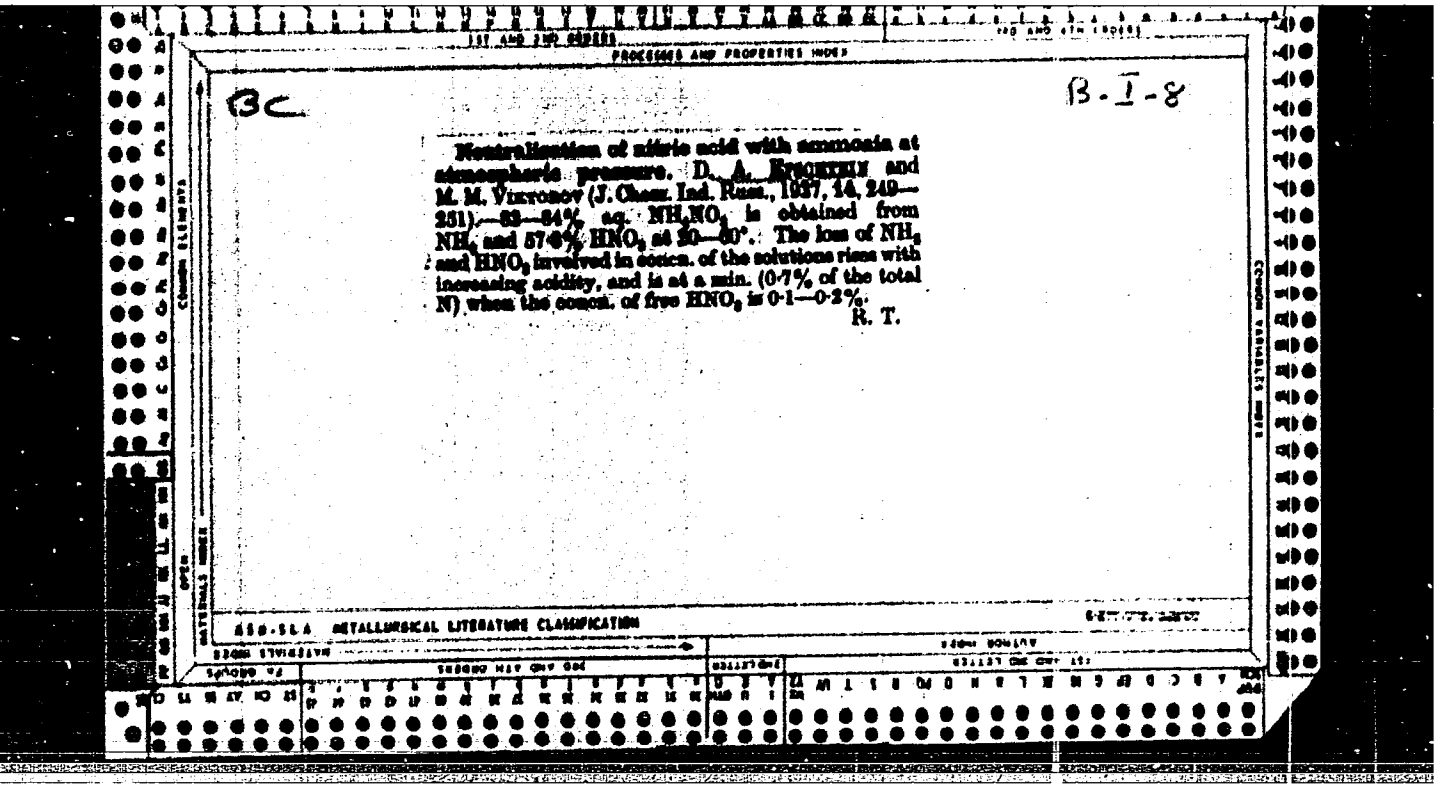
1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

BC

Catalysts for ammonia synthesis. D. A. Epshtein and I. S. Urologchenkov (J. Chem. Ind. Russ., 1936, 13, No. 1, 37—39).—The degree of poisoning of titano-magnetite catalysts (I) by traces of O_2 or CO (0·01—0·1%) in the reaction gas is at a max. after 60 min., thereafter falling slightly to a const. val.; subsequent reduction of (I) by pure H_2 restores its original activity. The expression $\Delta y = a/(bc + 1)$ is derived, in which Δy is the % diminution in activity of (I), c is the concn. of poison, and a and b are consts. R. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

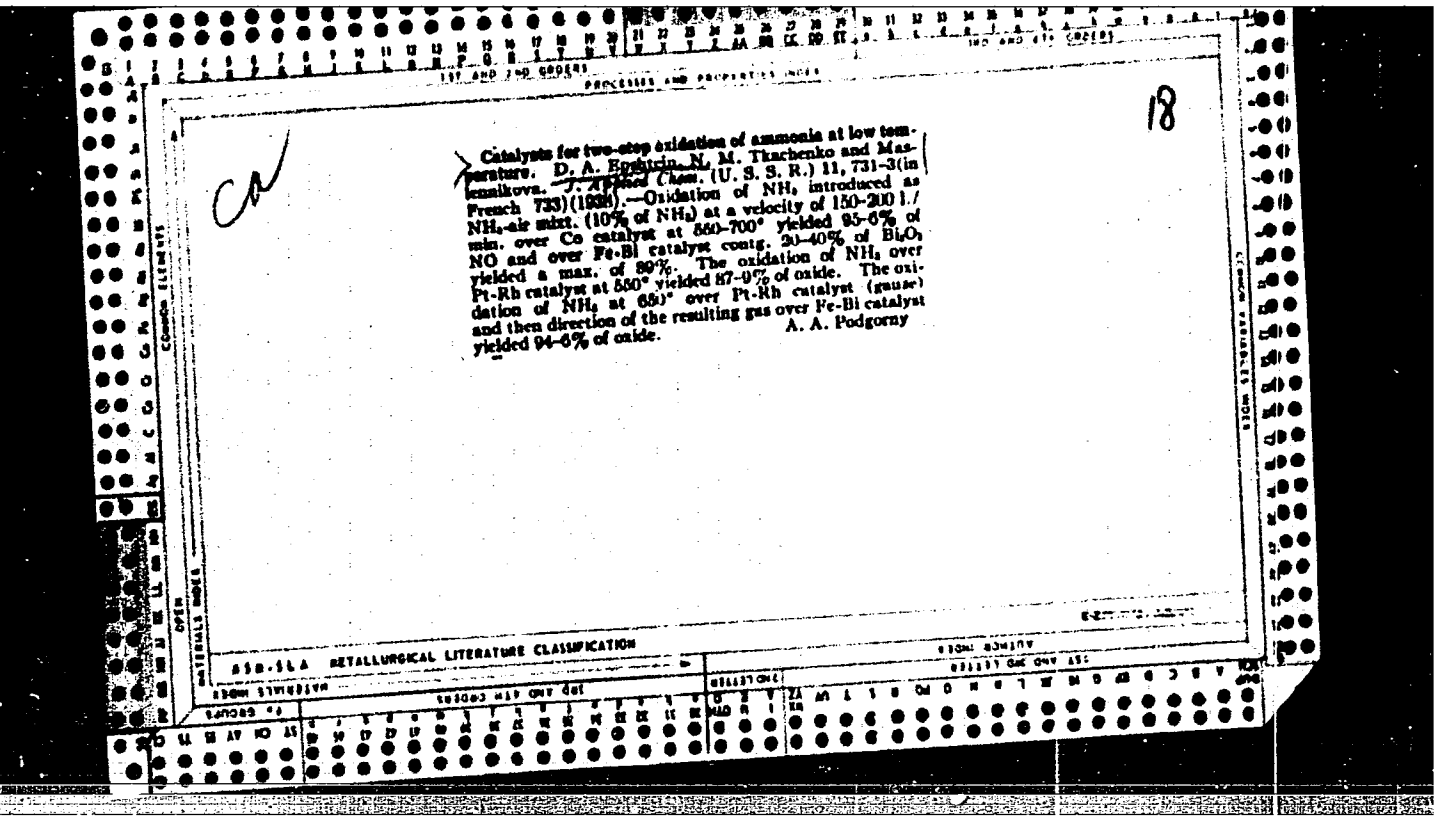


BC

B-I-8

Neutralisation of nitric acid with ammonia at atmospheric pressure. D. A. KRASHENIN and M. M. VINNIKOV (J. Chem. Ind. Russ., 1937, 14, 249—251).—83—84% aq. NH_4NO_3 is obtained from NH_3 and 57·6% HNO_3 at 20—30°. The loss of NH_3 and HNO_3 involved in concn. of the solutions rises with increasing acidity, and is at a min. (0·7% of the total N) when the concn. of free HNO_3 is 0·1—0·2%.

R. T.



18

Catalysts for two-step oxidation of ammonia at low temperature. D. A. Epshtein, N. M. Tkachenko and Mas-lennikova. *J. Applied Chem.* (U. S. S. R.) 11, 731-3(in French 733)(1938).—Oxidation of NH_3 introduced as NH_3-air mixt. (10% of NH_3) at a velocity of 150-200 l./min. over Co catalyst at 550-700° yielded 93-6% of NO and over Fe-Bi catalyst contg. 20-40% of Bi_2O_3 yielded a max. of 89%. The oxidation of NH_3 over Pt-Rh catalyst at 550° yielded 87-0% of oxide. The oxidation of NH_3 at 650° over Pt-Rh catalyst (gauze) and then direction of the resulting gas over Fe-Bi catalyst yielded 94-6% of oxide.
A. A. Podgorny

ASB-81A METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

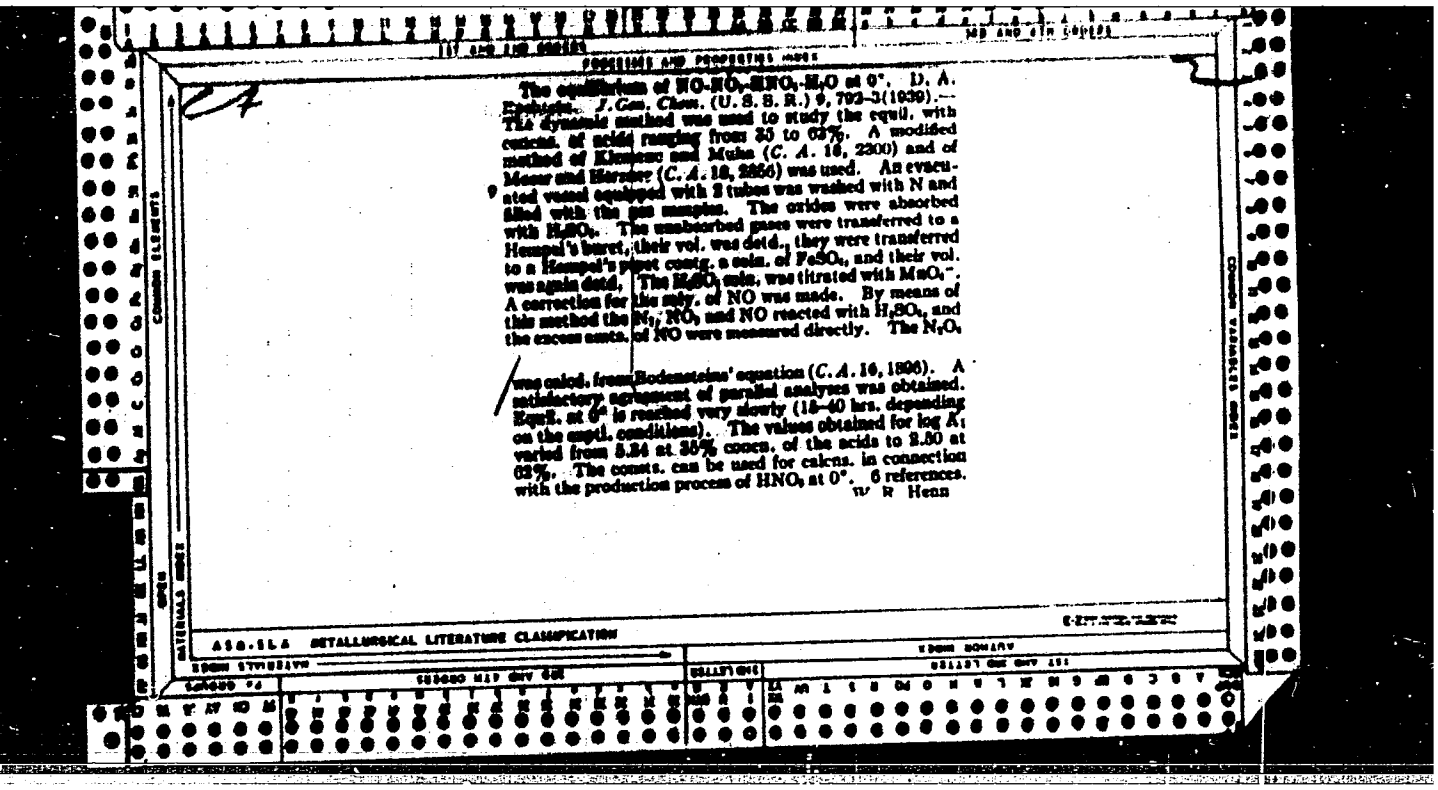
Ca

3

System K_2O–N_2O_5–H_2Cl_2–H_2O. Solubility isotherms. D. A. Kushtulin and Z. N. Kosterina. *J. Gen. Chem.* (U. S. S. R.) 9, 925-7(1939). The combined soly. of KCl and KNO_3 in mixts. of HCl and HNO_3, detd. at 21.5°, 0° and −20°, is a function of both the temp. and the acidity. With increase in acidity of the satd. solns. the ratio Cl^-/NO_3^- decreases. Elevation of the temp. with the acidity maintained const., also lowers the ratio. The results (tabulated) agree with those obtained by Nikolaev and Dombrovskaya (C. A. 24, 1780).

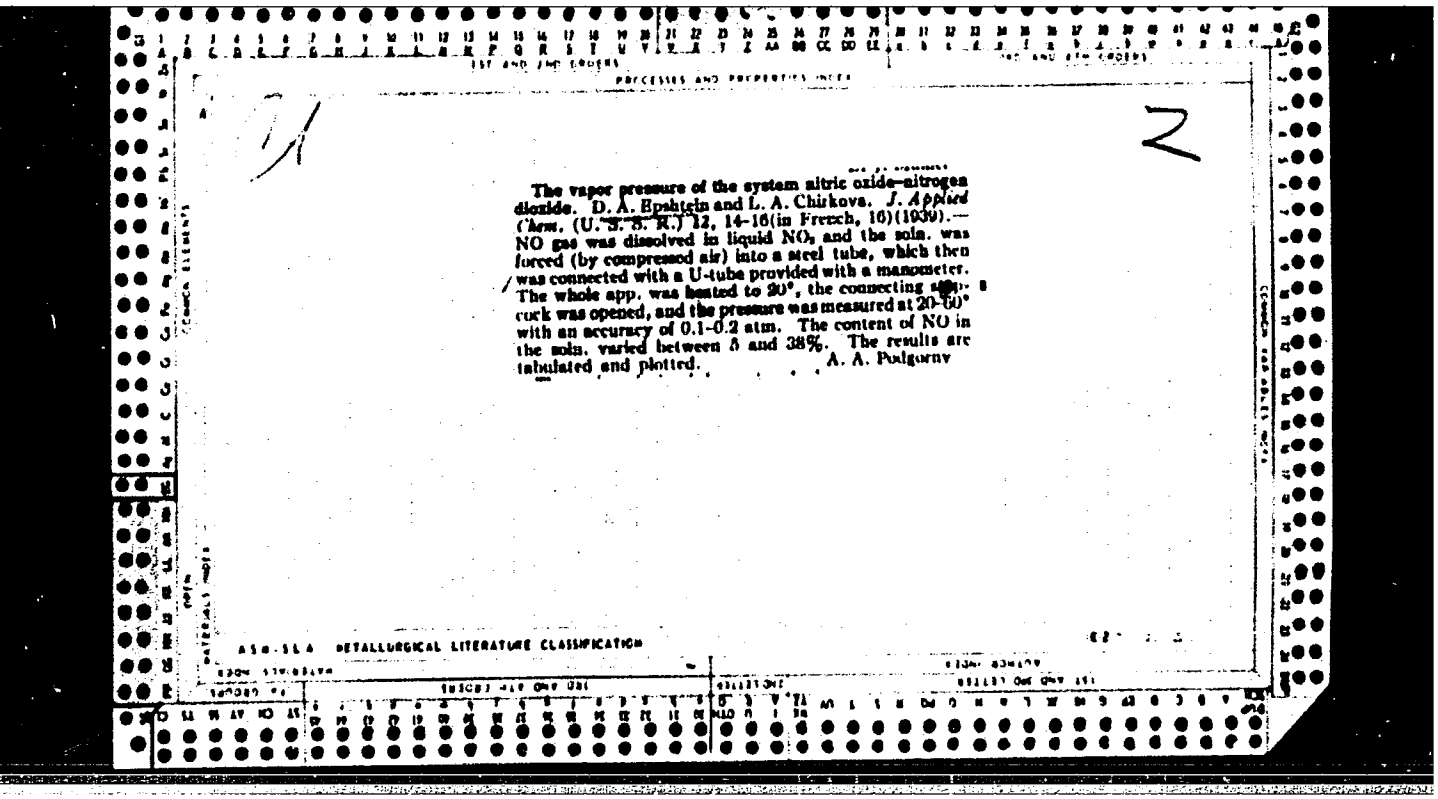
John Livak

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



The equilibrium of NO-NO_2-HNO_3-H_2O at 0°. D. A. Epshtein. *J. Gen. Chem.* (U. S. S. R.) 9, 792–3(1939).—The dynamic method was used to study the equil. with concns. of acids ranging from 30 to 63%. A modified method of Klemenc and Muhr (*C. A.* 16, 2300) and of Moser and Herzfeld (*C. A.* 16, 2856) was used. An evacuated vessel equipped with 2 tubes was washed with N and filled with the gas samples. The oxides were absorbed with H_2SO_4. The unabsorbed gases were transferred to a Hempel's buret, their vol. was detd., they were transferred to a Hempel's pipet contg. a soln. of $FeSO_4$, and their vol. was again detd. The H_2SO_4 soln. was titrated with MnO_4^-. A correction for the solv. of NO was made. By means of this method the N_2, NO_2 and NO reacted with H_2SO_4, and the excess contts. of NO were measured directly. The N_2O_4 was calcd. from Bodenstein' equation (*C. A.* 16, 1806). A satisfactory agreement of parallel analyses was obtained. Equil. at 0° is reached very slowly (18–40 hrs. depending on the expti. conditions). The values obtained for log K_1 varied from 5.84 at 30% concn. of the acids to 2.30 at 63%. The consts. can be used for calcns. in connection with the production process of HNO_3 at 0°. 6 references.

W. R. Henn



The vapor pressure of the system nitric oxide–nitrogen dioxide. D. A. Epshtein and L. A. Chirkova. *J. Applied Chem.* (U. S. S. R.) 12, 14-16(in French, 16)(1939).—NO gas was dissolved in liquid NO_2 and the soln. was forced (by compressed air) into a steel tube, which then was connected with a U-tube provided with a manometer. The whole app. was heated to 20°, the connecting stop-cock was opened, and the pressure was measured at 20-60° with an accuracy of 0.1-0.2 atm. The content of NO in the soln. varied between 5 and 38%. The results are tabulated and plotted. A. A. Poulgarny

EPSTEIN, D. A.

Classification of chemical reactions in connection with the determination of optimum conditions of technological processes. I. D. A. Epshtein. *J. Applied Chem.* (U.S.S.R.) 19, 1125-42(1946)(in Russian). The conditions of optimum yield R and intensity I (proportional to the mean velocity of the reaction) of a given process can be detd. on general principles by a classification based on the position of the system with regard to equil., the no. of simultaneous or consecutive reactions, the no. of phases, and the presence or absence of a catalyst. By the 1st two criteria, which are fundamental, reactions can be termed unidirectional or bidirectional, simple or composite, shifted or nonshifted; this gives 6 basic types, 3 simple, and 3 composite; each group is subdivided into unidirectional (I), bidirectional shifted (II), and bidirectional nonshifted reactions (III). Among the simple types, an example of I is the production of dil. HNO_3 by oxidation of NO to NO_2 and absorption in water; class II is illustrated by $CO_2 + C \rightleftarrows 2CO$, $CO + H_2O \rightleftarrows CO_2 + H_2$, or $2SO_2 + O_2 \rightleftarrows 2SO_3$, reactions in which the equil. can be shifted, depending on temp. and pressure. Haber's synthesis of NH_3 is given as an example of III, characterized by recycling as the specific method of intensification. Specific laws governing the detn. of optimum R and I are formulated and the dependence of R on time and temp. is represented for each type. The criteria of homogeneity or heterogeneity and of absence or presence of catalysts introduce only minor changes and do not affect the classification as a whole. N. Thon

EPSHTEYN, D. A.

PA 58T15

USSR/Chemistry - Chlorides
Chemistry - Nitrates

Apr 1947

"Topochemical Conversion of Sodium Chloride and Potassium Chlorides Into Nitrates," Prof D. A. Epshteyn, Dr Tech Sci; L. A. Chirkova, Candidate Chem Sci; I. N. Papulova, 5 pp

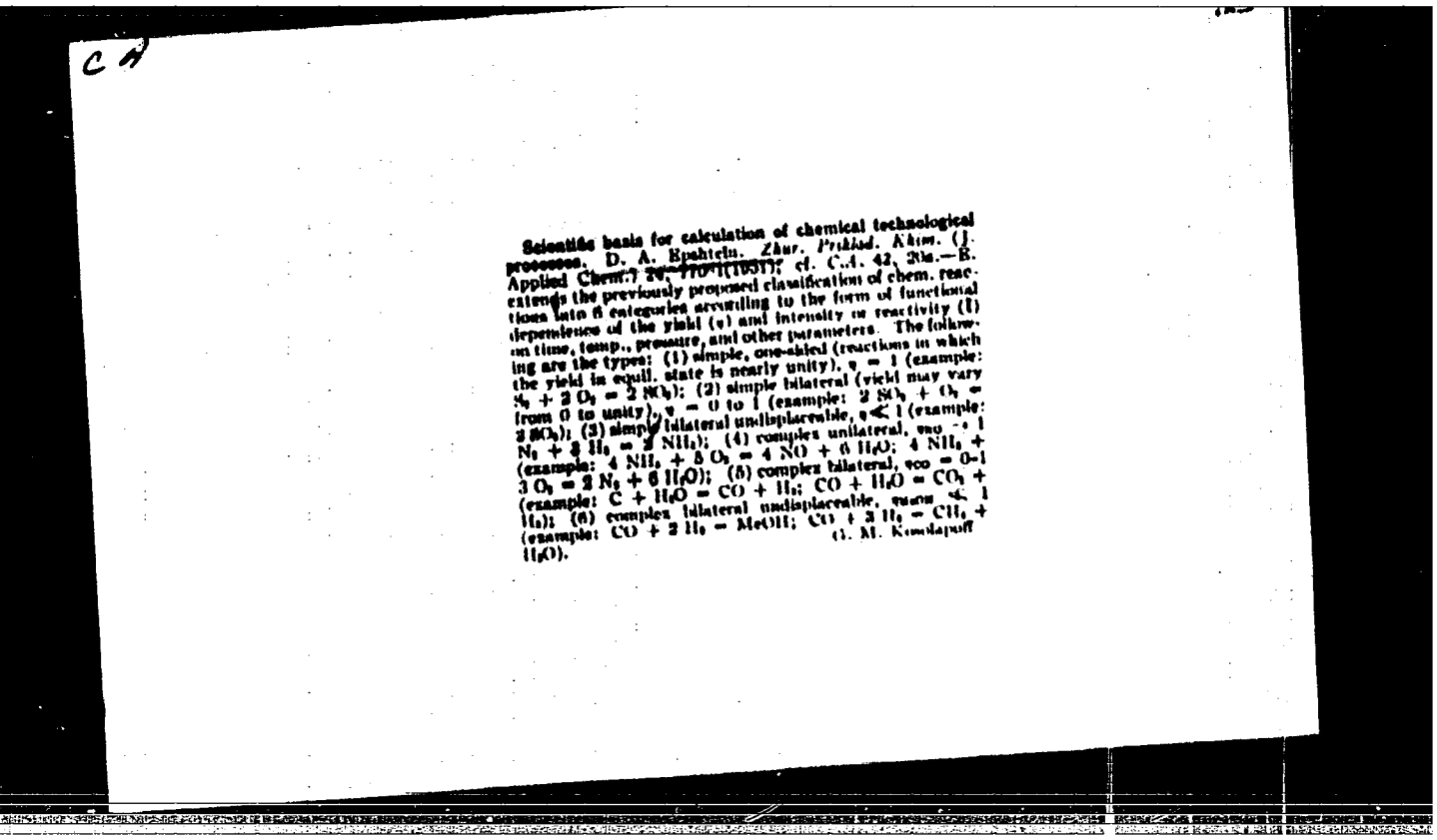
"Khim Prom" No 4

Describes results of studies on speed of interrelation of gaseous form and liquid form of nitrogen dioxide with solid chlorides, and studies which have been conducted on model apparatus. Data obtained for kinetic similarities, operated by chain reactions. No study of qualitative characteristics made.

58T15

CA

Mechanism of the catalytic oxidation of ammonia. D. A. Frank-Kamenetskii. *Doklady Akad. Nauk S.S.S.R.* 74, 1101–4 (1950). The fact that a 100-fold increase of the time of stay of the $NH_3 + O_2$ reaction mixt. in the catalyst zone does not change the relative rates of the reactions $4\ NH_3 + 5\ O_2 = 4\ NO + 6\ H_2O$ and $4\ NH_3 + 3\ O_2 = 2\ N_2 + 6\ H_2O$ proves that these reactions are purely heterogeneous and do not take place in space. The premature reaction which may take place on the walls of the reactor before the contact with the catalyst and which mainly produces N_2, can be suppressed by maintaining the wall, and the gas before contact, at a sufficiently low temp. If, owing to insufficient contact time, some amt. of NH_3 escapes unreacted, it may react with NO (after contact with the catalyst) and form N_2 and N_2O. The fact that catalysts for the oxidation of NH_3 are good chemisorbents for O_2, and that oxidation of NH_3 to NO requires a 1.3–1.4-fold excess of O_2 over the amt. given by the 1st stoichiometric equation is evidence that the oxidation takes place on O_2 adsorbed on the catalyst surface. On parts of the surface not covered by O_2, NH_3 will dissoc. to N_2 and H_2, and thus be lost for the production of NO. The fall of the yield of NO with time may be attributable to an increase of the fraction of the surface incapable of adsorbing O_2 but promoting the dissocn. of NH_3. The rise of the yield of NO with the temp., up to an optimum, is detd. by the rise of the rate of activated adsorption of O_2; further increase of the temp. favors dissocn. of NH_3. Increase of the height of the catalyst column, without change of the contact time, means greater velocity of the gas flow, hence more rapid access of O_2 to the catalyst and more favorable conditions for its adsorption. NH_3 reacts with the adsorbed O_2 forming an activated complex in which O is bound directly with the N atom, and which decomps. directly into NO and H_2 which, in turn, is oxidized to H_2O. Formation of N_2 is due solely to dissocn. of NH_3 at points not protected by adsorbed O_2. N. Thon



Scientific basis for calculation of chemical technological processes. D. A. Epshtein. Zhur. Prikhl. Khim. (J. Applied Chem.) 20, 1101(1947); cf. C.A. 42, 2Na.—B. extends the previously proposed classification of chem. reactions into 6 categories according to the form of functional dependence of the yield (v) and intensity or reactivity (I) on time, temp., pressure, and other parameters. The following are the types: (1) simple, one-sided (reactions in which the yield in equil. state is nearly unity), v = 1 (example: $N_2 + 2 O_2 = 2 NO_2$); (2) simple bilateral (yield may vary from 0 to unity), v = 0 to 1 (example: $2 SO_2 + O_2 = 2 SO_3$); (3) simple bilateral undisplaceable, v < 1 (example: $N_2 + 3 H_2 = 2 NH_3$); (4) complex unilateral, vno = 1 (example: $4 NH_3 + 5 O_2 = 4 NO + 6 H_2O$; $4 NH_3 + 3 O_2 = 2 N_2 + 6 H_2O$); (5) complex bilateral, vco = 0-1 (example: $C + H_2O = CO + H_2$; $CO + H_2O = CO_2 + H_2$); (6) complex bilateral undisplaceable, vuco < 1 (example: $CO + 2 H_2 = MeOH$; $CO + 3 H_2 = CH_4 + H_2O$).

G. M. Kondratieff

EPSHTEYN, D.A.

PA 190T32

USSR/Chemistry - Gas Synthesis Aug 51

"Method for Calculation of the Material Balance of a Circulation Process," D. A. Epshteyn

"Zhur Prik Khim" Vol XXIV, No 8, pp 880, 881

Using synthesis of NH_3 from H_2 and N_2 as model, describes basic method for calcn of material balances under recirculation for simple 2-direction reactions whose equil are not displaced and which are encountered in industry. Expressions are derived from which balances in all units of app in cycle and compn of all gas currents can be calcd.

190T32

EPSHTEYN, D. A.

USSR/Chemistry - Chlorine, Nitrosyl Chloride 1 May 51

"The System Cl_2 - NOCl," D. A. Epshteyn, S. V. Mikhaleva

"Dok Ak Nauk SSSR" Vol LXXVIII, No 1, pp 71-74

Liquid Cl_2 and NOCl mix in all proportions and according to the data of Boubnoff and Guye, the compd $NOCl \cdot Cl_2$ can form at low temps. To prove this, the authors measured the total and partial pressures of the vapors in the system Cl_2 - NOCl for a wide interval of concns. The total pressure was measured statically and the partial pressure by

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analysis of the gas and liquid equil phases. The results showed that chlorine has an insignificant capacity for assocn with NOCl and therefore the compd $NOCl \cdot Cl_2$ does not exist under the conditions studied.

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[illegible] ...vich, 18[illegible]-

Scientific principles of chemical manufacture. Moskva, Izd-vo Akademii pedagog. nauk RSFSR, 1952- (Pedagogicheskaia biblioteka uchitelia) (54-18419)

YEPSHTEYN, D.A.

Nitric Acid

Synthesis of ammonia and nitric acid. Khim. v shkole No. 3, 1952.

Monthly List of Russian Accessions, Library of Congress. November 1952. UNCLASSIFIED.

EPSHTEYN, D. A.

USSR/Chemistry - Reaction Kinetics 11 Sep 52

"The Mechanism Kinetics of the Reaction of Water-Soluble Salts With Gases in the Presence of Water Vapor," I. N. Nikonova, D. A. Epshteyn

"Dok Ak Nauk SSSR" Vol 86, No 2, pp 353-356

The mechanism of the reaction between a solid substance and a gas in the presence of water vapor to form another solid was studied using the reaction between Na and K chlorides (solid) and HNO_3 (gas). It was found that the water vapor not only hastens the chem reaction, but also speeds up diffusion through the layer of the solid product that is formed. Presented by Acad M. M. Dubinin 25 Jun 52.

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EPSHTEIN, D.A.

Uchebnye modeli zavodskikh khimicheskikh ustanovok; posobie dlia sred. shkoly (Models for the study of chemical plant equipment; manual for secondary schools). Moskva, Uchpedgiz, 1953. 102 p. (Akad. ped. nauk RSFSR. In-t metodov obucheniia)

SO: Monthly List of Russian Accessions, Vol 7, No 9, Dec 1954

ERSHOV, D.A.

PHASE I TREASURE ISLAND BIBLIOGRAPHIC REPORT AID 169 - I

BOOK Call No.: AF582723

Author: VOL'FKOVICH, S.I., YEGOROV, A.P., & ERSHOVA, D.A.
Full Title: GENERAL CHEMICAL TECHNOLOGY (VOL. I)
Translitorated Title: Obshchaya khimicheskaya tekhnologiya

Publishing Data
Originating Agency: None
Publishing House: State Scientific-Technical Publishing House of Chemical Literature (GOSKHIMIZDAT)

Date: 1953 No. pp.: 632 No. of copies: 25,000

Editorial Staff
Editor: Luchinskiy, G.P. Tech. Ed.: None
Editor-in-Chief: Vol'fkovich, S.I., Acad. Appraiser: None
Others: Gratitude is expressed to several Soviet scientists for their valuable comments.
Three additional authors are mentioned: Z.A. Rogovin, Yu. P. Kusenko, I.V. Shmanenkov.

Text Data
Coverage: The book consists of two volumes. Volume I is devoted to general problems of chemical technology (such as raw materials, energetics technology of water and fuel), to the manufacture of gases, acids, alkalies, salts, fertilizers, and to electrochemical processes, etc.

EPSHTEYN, D. A.

Some illustrations of machinery, tables, and diagrams are included. The book might be of interest because it mentions names of many Soviet scientists and their contributions to the development of various chemical industries. Desposits of some raw materials in the U.S.S.R. and goals set by the Five-Year Plan (1951-1955) for some industries are cited.

Purposes: Approved by the Ministry of Higher Education of the U.S.S.R. as a textbook for departments and colleges of chemical technology.

Facilities: Names of many Soviet chemists are mentioned.

No. of Russian and Slavic References: 145 (1922-1952)

Available: A.I.D., Library of Congress.

EPSHTEYN, D. A. Sep 53

USSR/Chemistry - Chemical Technology

"Review of S. Il Vol'fkovich, A. P. Yegorov and D. A. Epshteyn's book 'General Chemical Technology (Obshchaya Khimicheskaya Tekhnologiya)' Vol I, 632 pp, Goskhimizdat, Moscow, 1953." (P. P. Budnikov, reviewer)

Usp Khim, Vol 22, No 9, pp 1165-1168

In this book material is organized on the basis of similarity of technol processes and partly on the basis of common raw material source. The section on thermal treatment of fuels discusses pyrolysis of solid fuel, conversion of petroleum and natural gas, and gasification of solid fuel, including subterranean gasification. Development of the chem ind during prewar 5-yr plans and the leading USSR chem schools are discussed. The section on basic inorganic synthesis describes new processes for production of conc HNO_3 by direct synthesis and combined production of HNO_3 and H_2SO_4. While the book has some shortcomings, it is a valuable textbook for higher educational institutions.

268T17

EPSHTEYN, D.A. [author]; ARSEN'YEVA, L.Z. [reviewer].

"Scientific bases of chemical industry." D.A.Epshtein. Reviewed by L.Z. Arsen'eva. Zhur.prikl.khim. 26 no.9:1002-1003 S '53. (MLRA 6:10)
(Chemical industries) (Epshtein, D.A.)

VOL'FKOVICH, S.I.; YEGOROV, A.N.; EPSHTEYN, D.A. [authors]; YAKOVKIN, G.A. [reviewer].

"General chemical technology." S.I.Vol'fkovich, A.N.Egorov, D.A.Epshtein. Reviewed by G.A.IAkovkin. Zhur.prikl.khim. 26 no.10:1103-1104 O '53. (MLRA 6:10)

(Chemistry, Technical) (Vol'fkovich, Semen Isaakovich) (Egorov, A.N.) (Epstein, D.A.)

EPSHTEYN, D. A.

ZVYAGINTSEV, O.Ye. [reviewer]; VOL'FKOVICH, S.I.; YEGOROV, A.P.; EPSHTEYN, D.A. [authors].

"General chemical technology." S.I.Vol'fkovich, A.P.Egorov, D.A.Epshtein. Reviewed by O.E.Zviagintsev. Zhur.prikl.khim. 26 no.12:1323-1324 D '53. (MLRA 6:11)

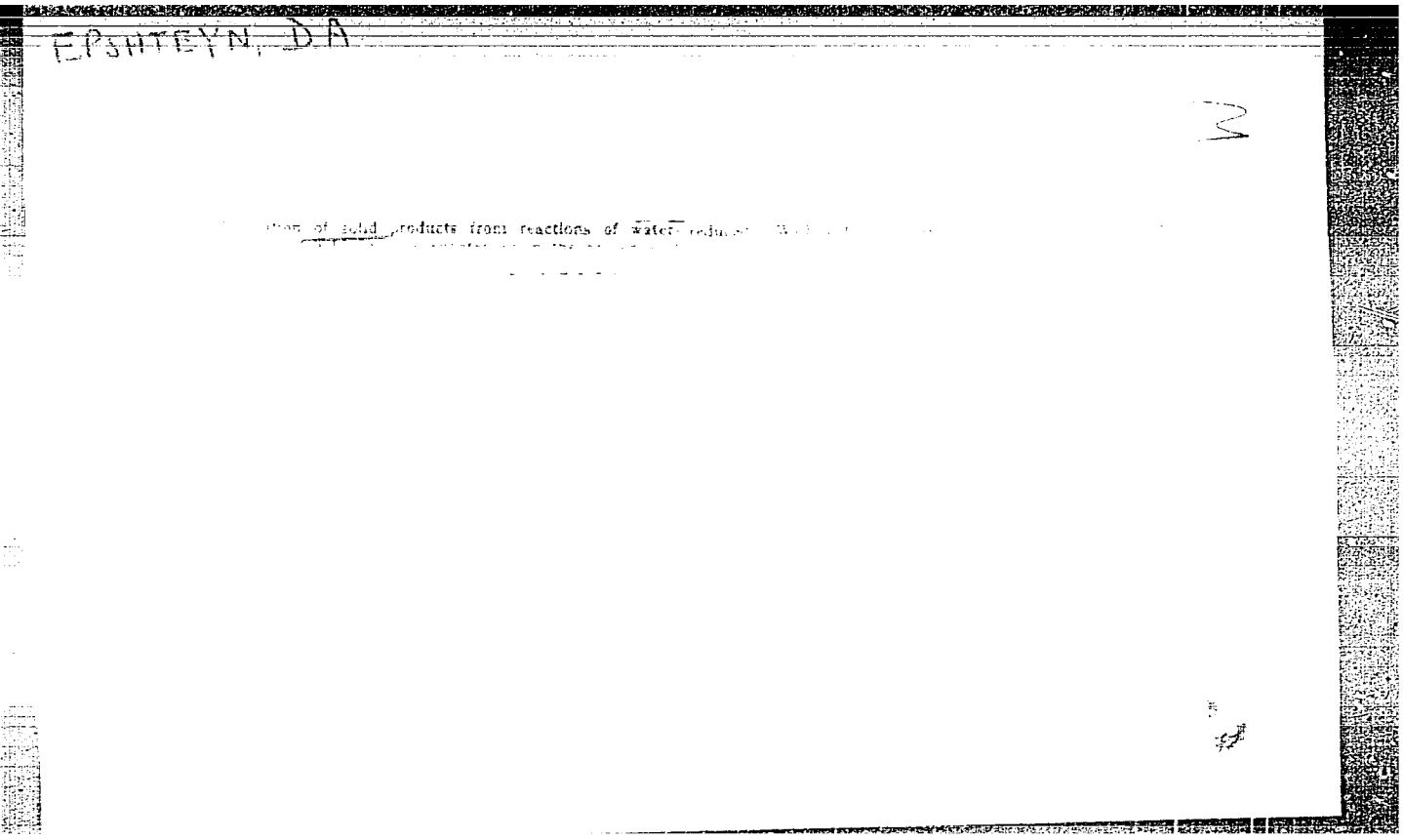
(Chemistry, Technical) (Vol'fkovich, Semen Isaakovich) (Egorov, A.P.) (Epshtein, D.A.)

EPSHTEYN, D. A.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

Name	Title of Work	Nominated by
Vol'fkovich, S. I. Yegorov, A. P. Epshteyn, D. A.	"General Chemical Technology" (textbook Vol I)	Scientific Research Institute of Teaching, Academy of Pedagogical Sciences RSFSR

SO: W-30604, 7 July 1954



EPSHTEYN, D.A., professor.

Chemistry problems on industrial processes. Khim. v shkole 10 no.6:28-36 N-D '55. (MLRA 9:1)
(Chemistry--Problems, exercises, etc.)

EPSHTEYN, D.A., professor

Fixed nitrogen. Priroda 44 no.10:41-47 O'55. (MLRA 8:12)
(Nitrogen--Fixation)

EPSHTEYN, D.A., prof.; IZMAIL'SKIY, V.A., prof.; BARANNIK, V.P., dots.; BELOTSVETOV, A.V., dots.; SMIRNOVA, M.I., tekhn. red.

[Programs of pedagogical institutes; elements of chemical technology for natural science-faculties of pedagogical institutes] Programmy pedagogicheskikh institutov: osnovy khimicheskoi tekhnologii dlia fakul'tetov estestvoznaniia pedagogicheskikh institutov. Moskva, Gos. uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1956. 12 p. (MIRA 11:9)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye vysshikh i srednikh pedagogicheskikh uchebnykh zavedeniy.
(Chemistry, Technical--Study and teaching)

EPSHTEYN, D M.

KHODAKOV, Yuriy Vladimirovich; TSVETKOV, Leonid Aleksandrovich; SHAPOVALENKO, Sergey Grigor'yevich; EPSHTEYN, David Arkad'yevich; GRABETSKIY, A.A., redaktor; KOZLOVSKAYA, M.D., tekhnicheskiy redaktor.

[Chemistry; textbook for the class 10 of the secondary school] Khimiia; uchebnik dlia 10 klassa srednei shkoly. Pod red. S.G.Shapovalenko. Moskva, Gos. uchebno-pedagog. izd-vo Ministerstva prosveshcheniia RSFSR, 1956. 167 p. (MLRA 9:6)
(Chemistry)